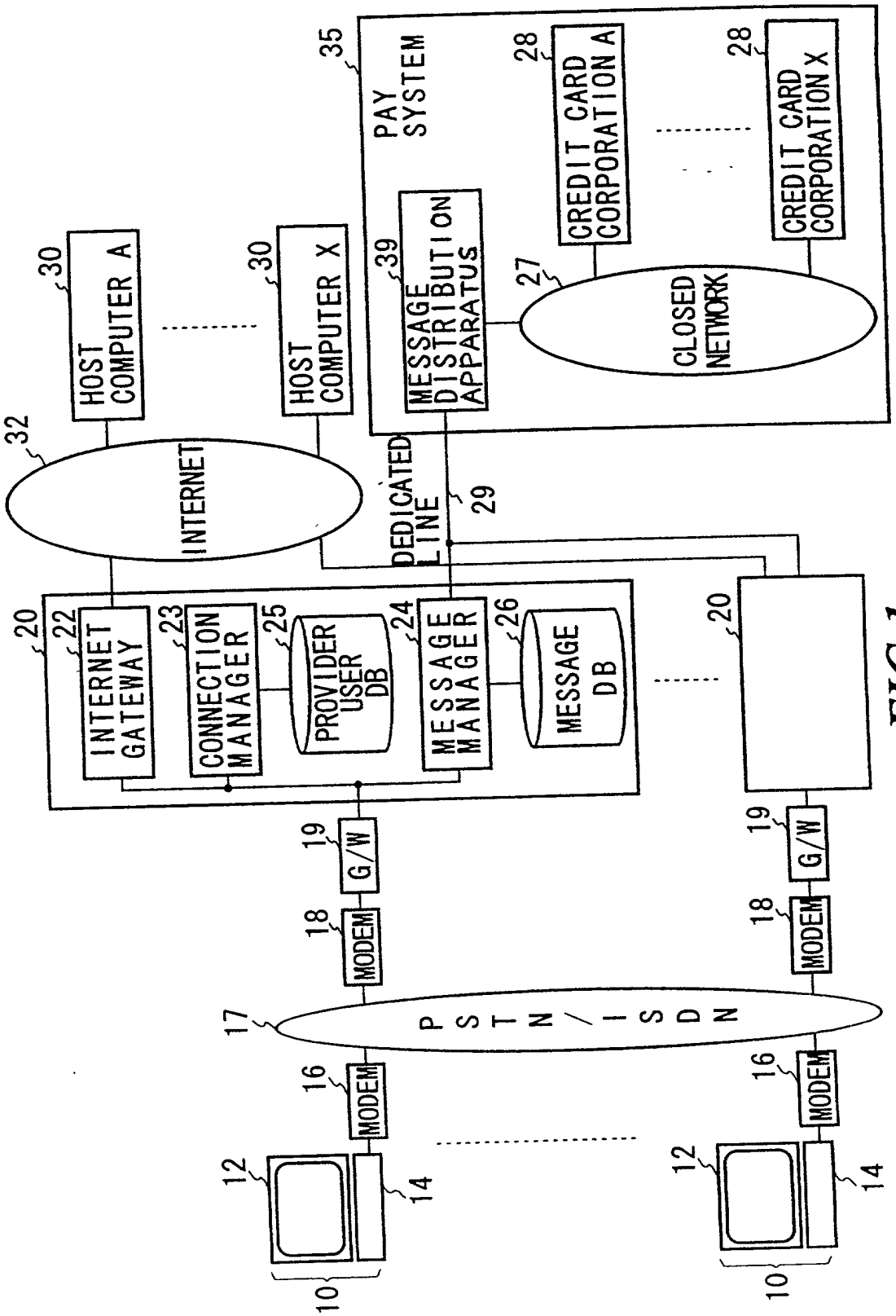

10
12
14
16
MODEM
17
PSTN/ISDN
18
MODEM
19
G/W
20
INTERNET GATEWAY
22
CONNECTION MANAGER
23
PROVIDER USER DB
25
MESSAGE MANAGER
24
MESSAGE DB
26
INTERNET
32
HOST COMPUTER A
30
HOST COMPUTER X
30
DEDICATED LINE
29
MESSAGE DISTRIBUTION APPARATUS
39
CLOSED NETWORK
27
PAY SYSTEM
35
CREDIT CARD CORPORATION A
28
CREDIT CARD CORPORATION X
28

FIG.1

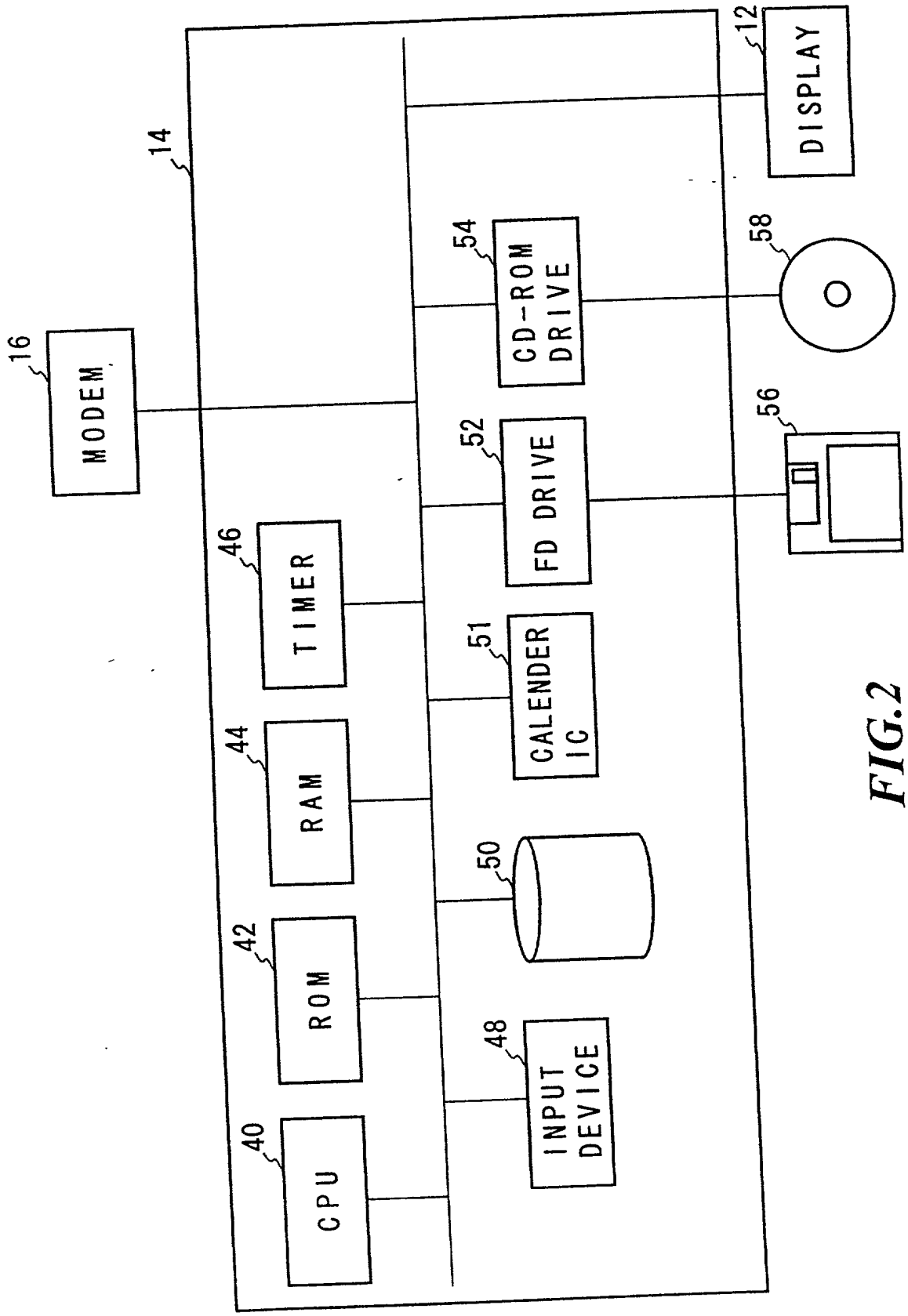

MODEM
16
14
DISPLAY
12
CD-ROM DRIVE
54
58
FD DRIVE
52
56
TIMER
46
CALENDER IC
51
RAM
44
50
ROM
42
INPUT DEVICE
48
CPU
40

FIG.2

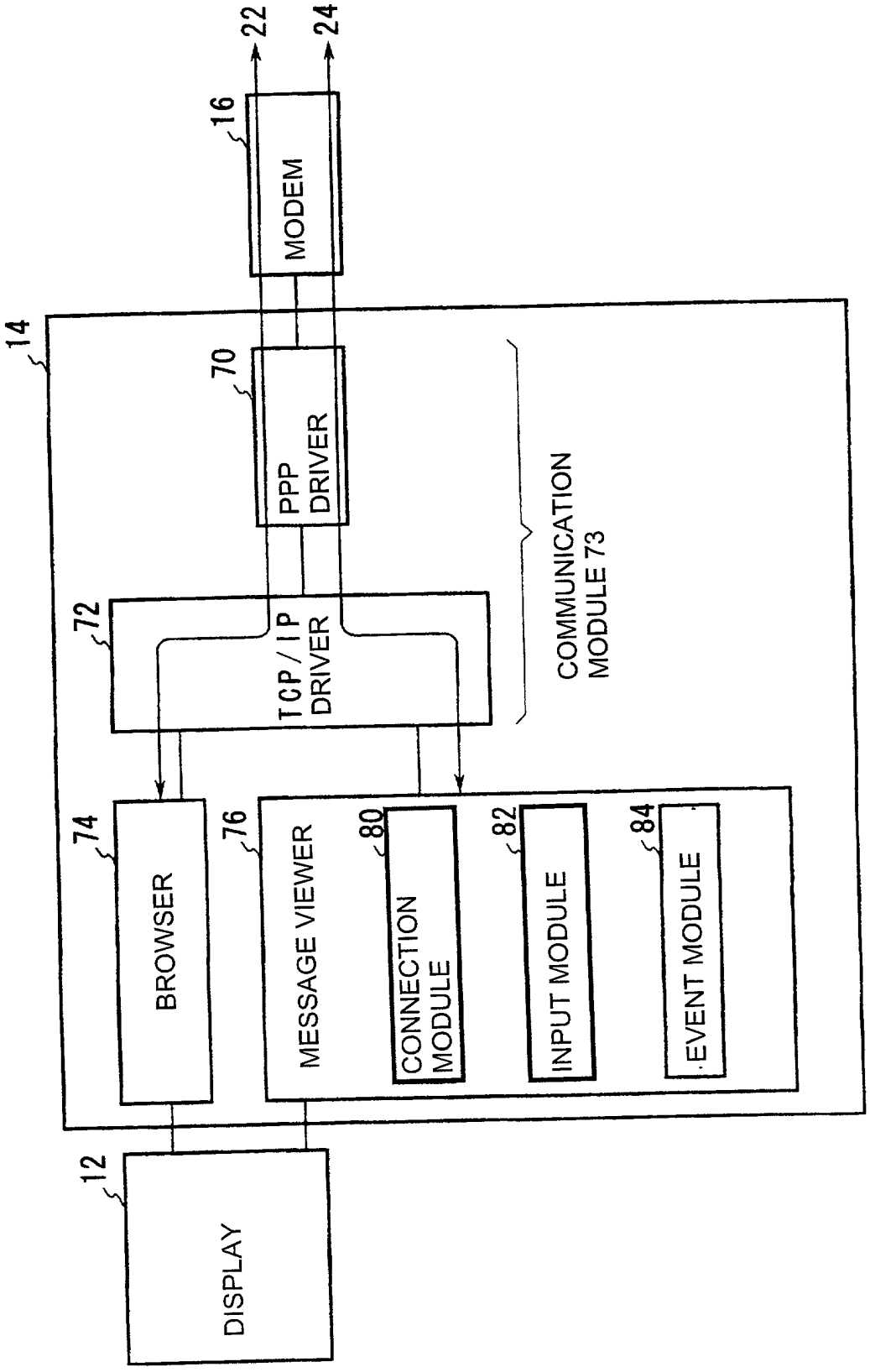

22
24
16
MODEM
14
70
PPP DRIVER
72
TCP/IP DRIVER
COMMUNICATION MODULE 73
74
BROWSER
76
MESSAGE VIEWER
80
CONNECTION MODULE
82
INPUT MODULE
84
EVENT MODULE
12
DISPLAY

FIG.3

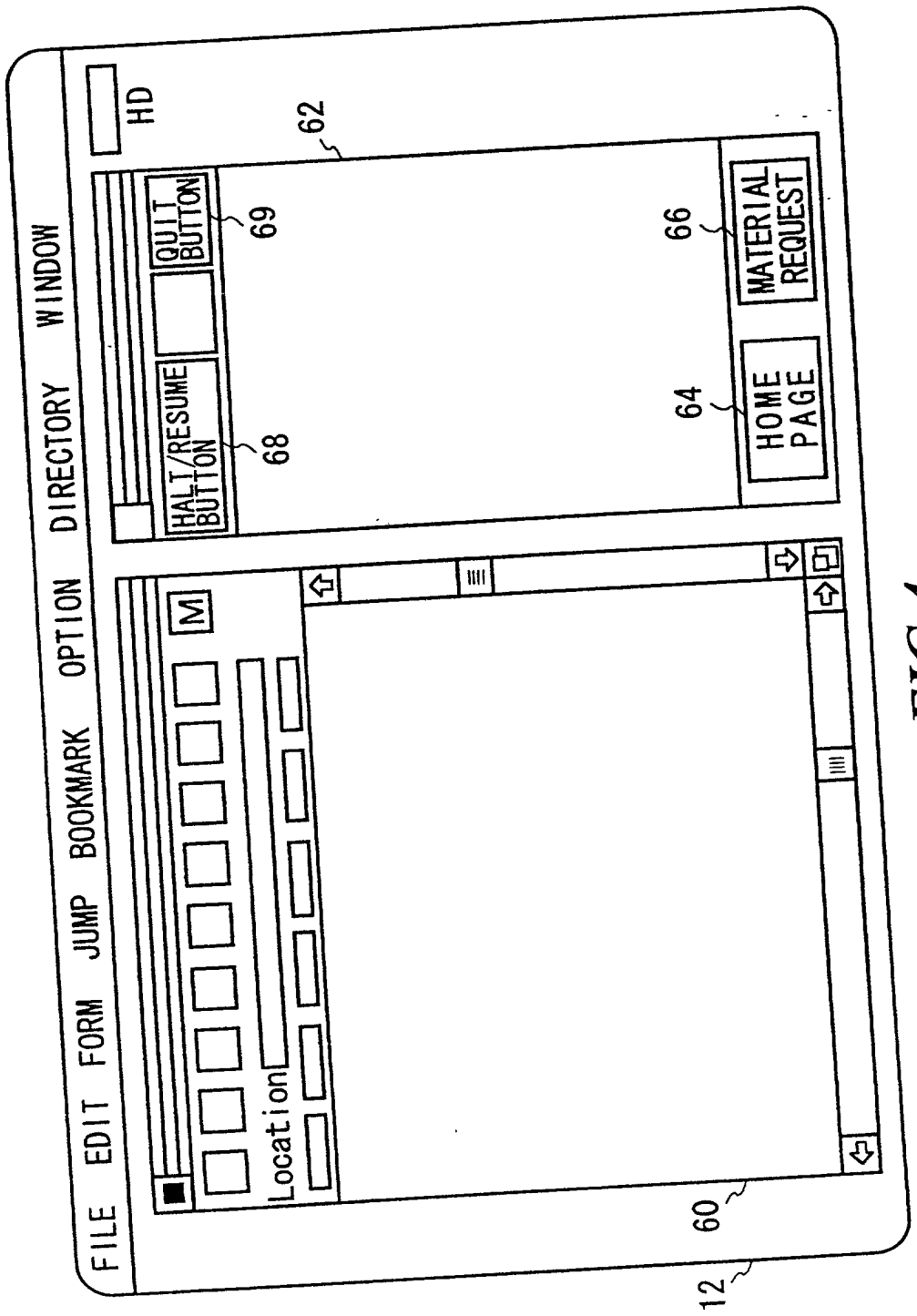

FILE EDIT FORM JUMP BOOKMARK OPTION DIRECTORY WINDOW
HD
62
HALT/RESUME BUTTON
68
QUIT BUTTON
69
66
MATERIAL REQUEST
64
HOME PAGE
Location
60
12

FIG.4

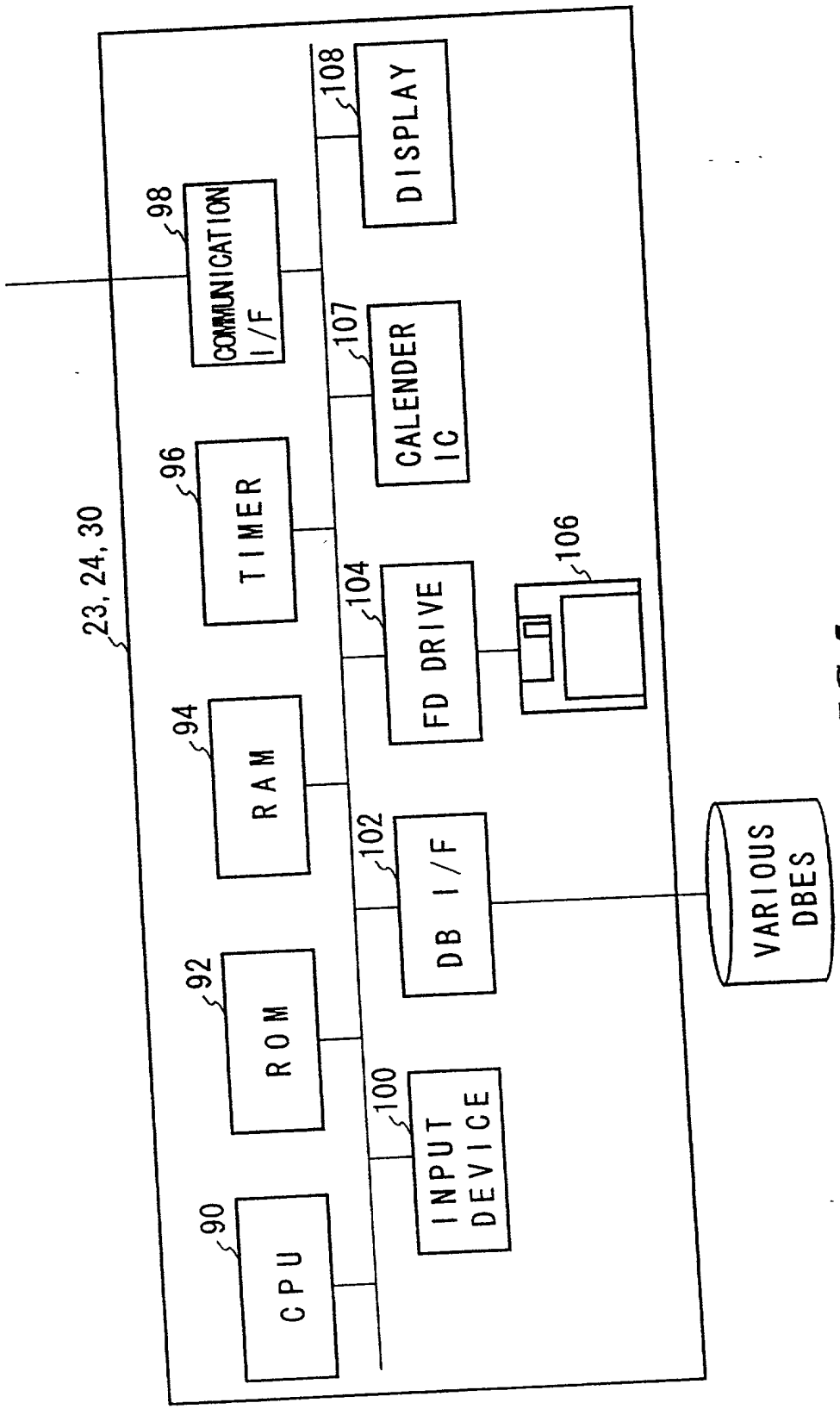

23, 24, 30
90
CPU
92
ROM
94
RAM
96
TIMER
98
COMMUNICATION I/F
100
INPUT DEVICE
102
DB I/F
104
FD DRIVE
106
107
CALENDER IC
108
DISPLAY
VARIOUS DBES

FIG.5

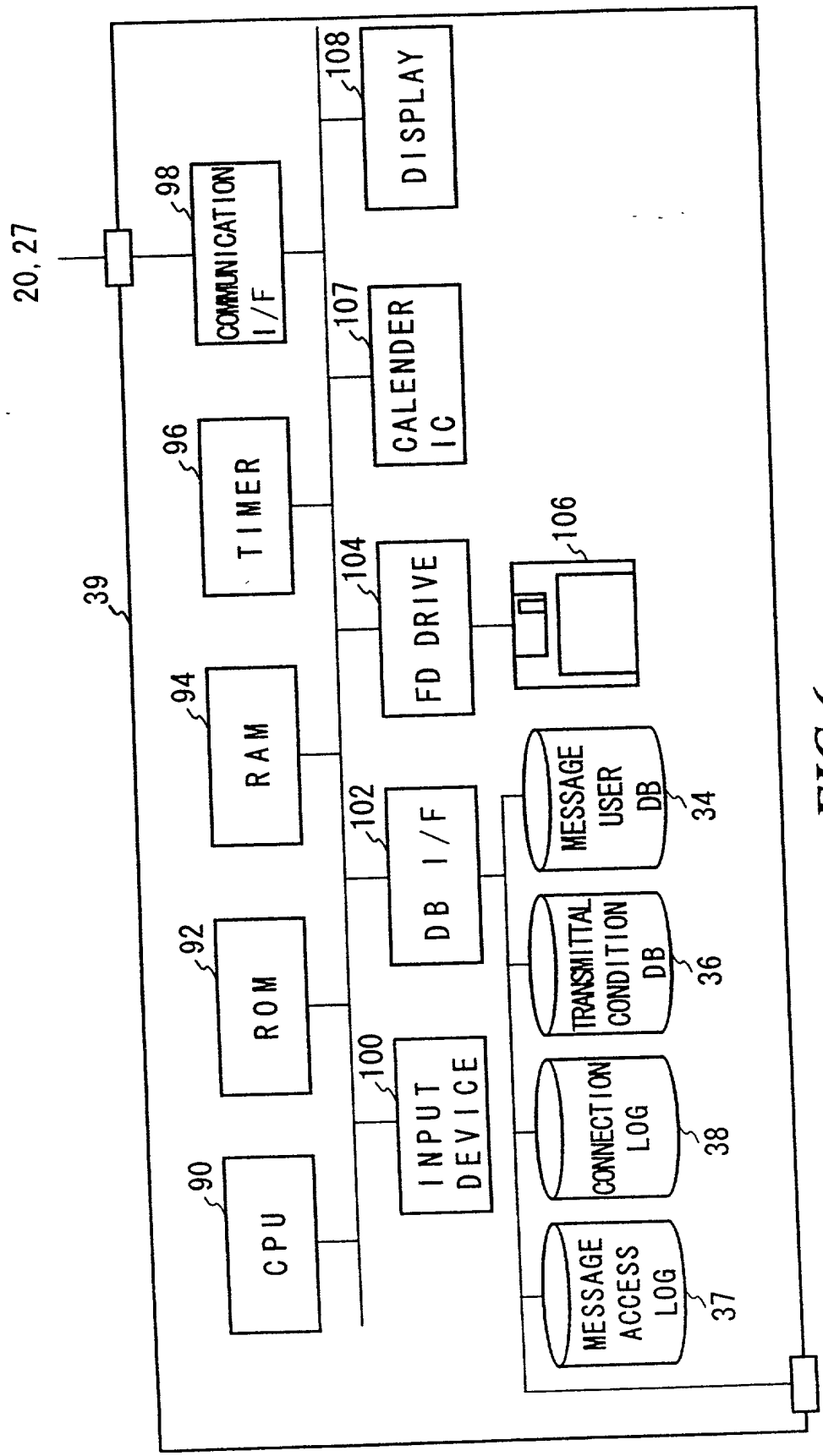
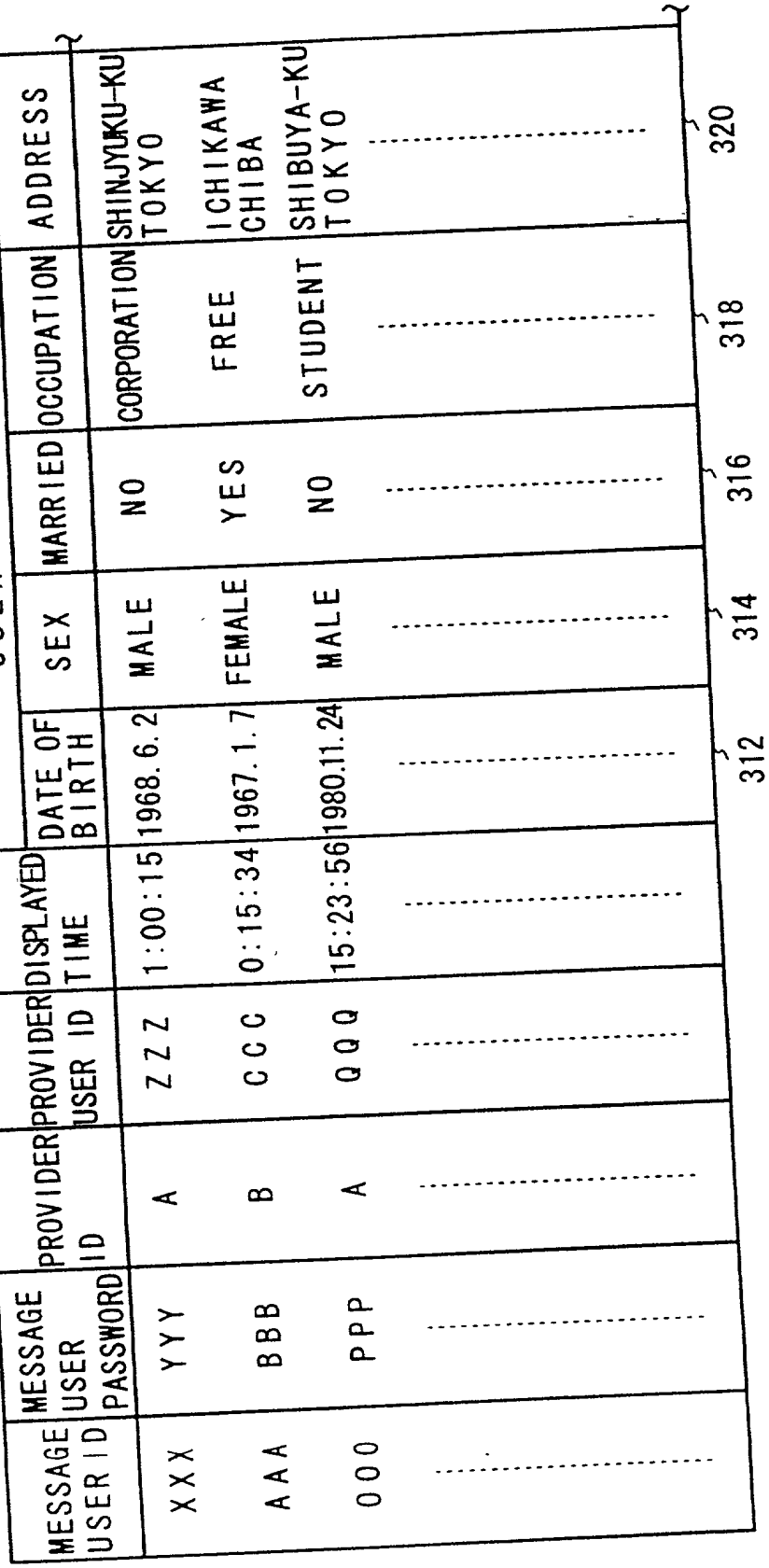

20, 27
39
CPU
90
ROM
92
RAM
94
INPUT DEVICE
100
DB I/F
102
FD DRIVE
104
106
TIMER
96
COMMUNICATION I/F
98
CALENDER IC
107
DISPLAY
108
MESSAGE USER DB
34
TRANSMITTAL CONDITION DB
36
CONNECTION LOG
38
MESSAGE ACCESS LOG
37

FIG.6

MESSAGE USER DATABASE 34(A)



MESSAGE USER ID	MESSAGE USER PASSWORD	PROVIDER ID	PROVIDER USER ID	DISPLAYED TIME	USER IMFORMATION			
					DATE OF BIRTH	SEX	MARRIED	OCCUPATION	ADDRESS
XXX	YYY	A	ZZZ	1:00:15	1968.6.2	MALE	NO	CORPORATION	SHINJYUKU-KU TOKYO
AAA	BBB	B	CCC	0:15:34	1967.1.7	FEMALE	YES	FREE	ICHIKAWA CHIBA
000	PPP	A	QQQ	15:23:56	1980.11.24	MALE	NO	STUDENT	SHIBUYA-KU TOKYO

310 312 314 316 318 320

FIG. 7

TOZ080 9mBE2600

MESSAGE USER DATABASE(B)

CREDIT CARD NUMBER	LIMITATION	NAME	LAST COMMUNICATION TIME	THE MONTH BEFORE LAST PARAMETER	LAST MONTH PARAMETER	THIS MONTH PARAMETER
2934-5612-6847-5587	98/6	TARO YAMADA	1996.3.31 23:00	471	516	724
4879-5517-5001-6901	97/9	ICHIRO TANAKA	1996.4.4 21:15	436	325	628
9540-1735-9927-0513	97/4	JIRO SUZUKI	1996.4.2 00:45	488	412	509
⋮	⋮	⋮	⋮	⋮	⋮	⋮
				332	334	336

FIG.8

TD2080 "9nBE2660

TRANSMITTAL CONDITION DATABASE 36(A)

MESSAGE URL	INDIVIDUAL LIMIT TYPE	INDIVIDUAL LIMIT	TOTAL LIMIT TYPE	TOTAL LIMIT	DISPLAYED TIME	AGE	SEX	MARRIED	OCCUPATION	ADDRESS	RELATED MESSAGES
A	DAY	3	DAY	1000	---	18-22	MALE	NO	CORPORATION	TOKYO	C
B	TOTAL	10	MONTH	10000	---	--	FEMALE	YES	STUDENT	KANAGAWA	---
C	MONTH	8	MONTH	500	1996.1.1 /12:00	--	--	NO	---	KANTO	A
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮

FIG.9

TRANSMITTAL CONDITION DATABASE 36 (B)

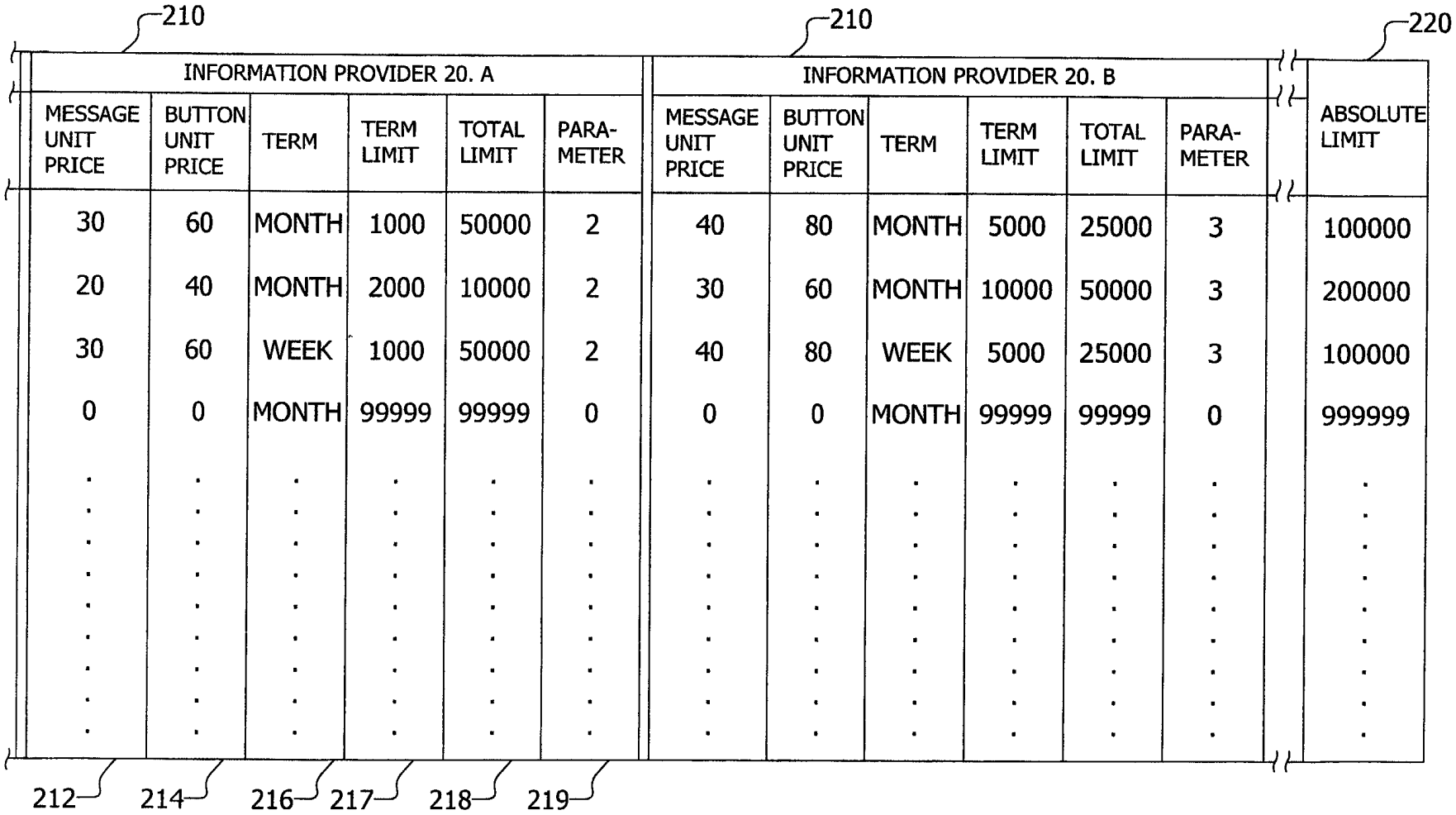


FIG.10

TD/080'9nBE2660

CONNECTION LOG 38

PROVIDER ID	PROVIDER USER ID	EVENT	DATE	TIME
A	X X X	LOGIN	1996.1.31	0:15:00
A	X X X	CHARGE HALT	1996.1.31	0:15:01
B	A A A	LOGIN	1996.1.31	1:21:15
A	X X X	CHARGE START	1996.1.31	2:09:05
A	X X X	CHARGE HALT	1996.1.31	2:15:08
B	B B B	⋮	⋮	⋮
A	C C C			
⋮	⋮			

FIG.11

FOZ080 9nBE2660

MESSAGE USER ID	MESSAGE ID	DISPLAYED DATE	DISPLAYED TIME	LOG TYPE
000	B	1996.8.25	12:00	1
SSS	A	1996.8.25	12:05	3
BBB	L	1996.8.25	12:06	2
⋮	⋮	⋮	⋮	⋮

1 : DISPLAY
2 : HOMEPAGE DISPLAY
3 : MATERIAL REQUEST

FIG.12

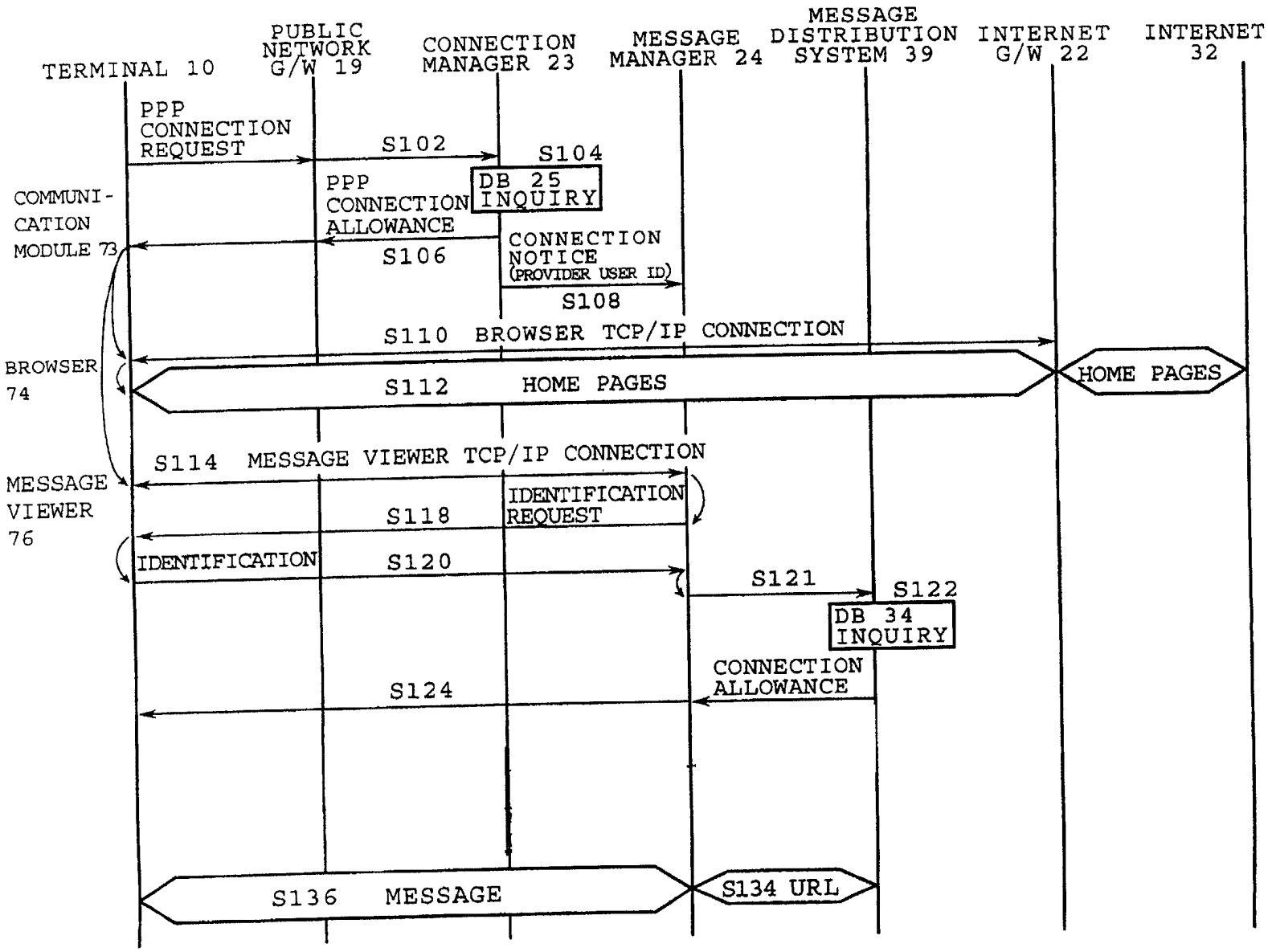

TERMINAL 10
PUBLIC NETWORK G/W 19
CONNECTION MANAGER 23
MESSAGE MANAGER 24
MESSAGE DISTRIBUTION SYSTEM 39
INTERNET G/W 22
INTERNET 32
PPP CONNECTION REQUEST
S102
S104
DB 25 INQUIRY
PPP CONNECTION ALLOWANCE
S106
CONNECTION NOTICE (PROVIDER USER ID)
S108
COMMUNI-CATION MODULE 73
S110 BROWSER TCP/IP CONNECTION
BROWSER 74
S112 HOME PAGES
HOME PAGES
S114 MESSAGE VIEWER TCP/IP CONNECTION
MESSAGE VIEWER 76
IDENTIFICATION REQUEST
S118
IDENTIFICATION
S120
S121
S122
DB 34 INQUIRY
CONNECTION ALLOWANCE
S124
S136 MESSAGE
S134 URL

FIG.13

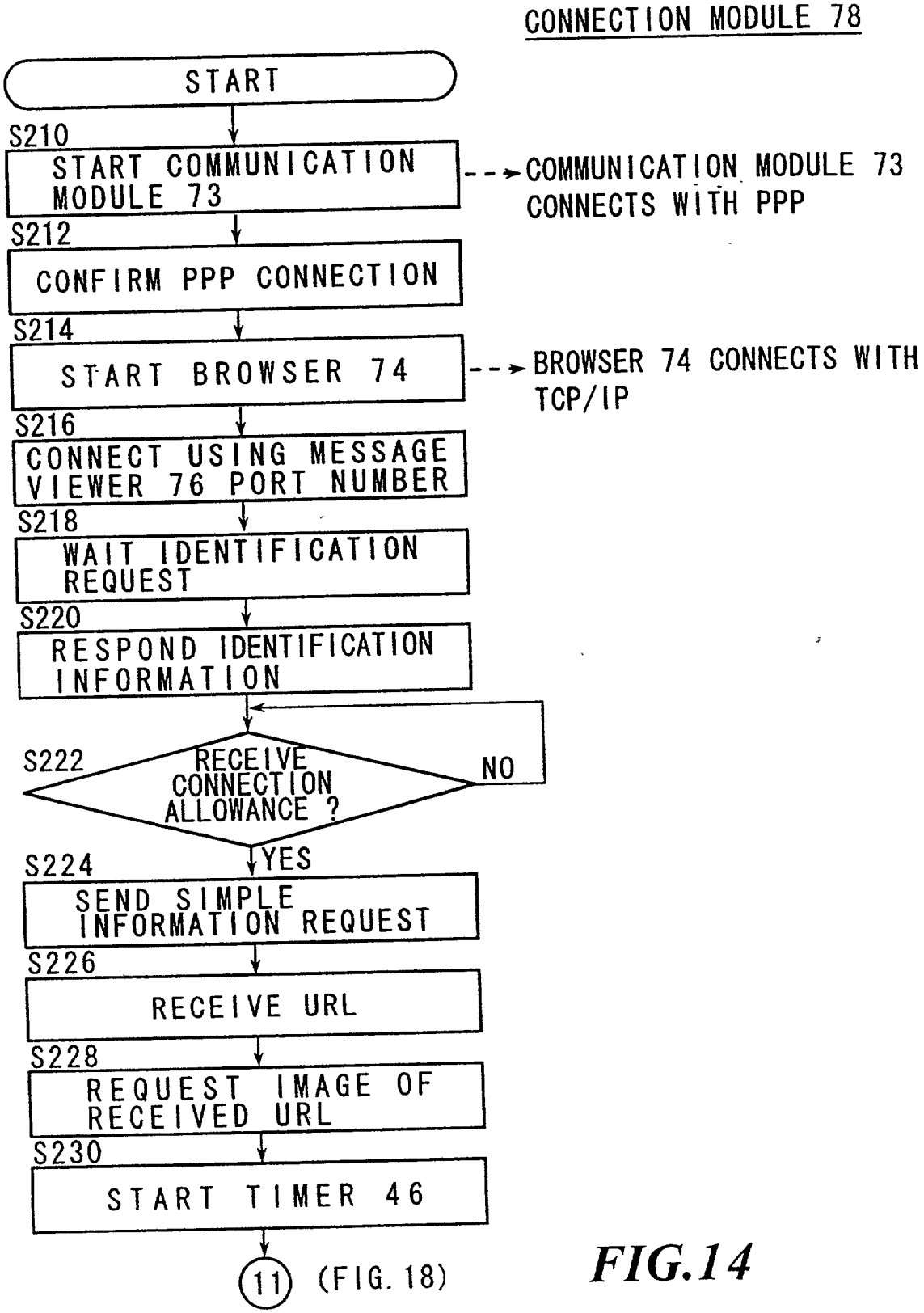

CONNECTION MODULE 78
START
S210
START COMMUNICATION MODULE 73
COMMUNICATION MODULE 73 CONNECTS WITH PPP
S212
CONFIRM PPP CONNECTION
S214
START BROWSER 74
BROWSER 74 CONNECTS WITH TCP/IP
S216
CONNECT USING MESSAGE VIEWER 76 PORT NUMBER
S218
WAIT IDENTIFICATION REQUEST
S220
RESPOND IDENTIFICATION INFORMATION
S222
RECEIVE CONNECTION ALLOWANCE ?
NO
YES
S224
SEND SIMPLE INFORMATION REQUEST
S226
RECEIVE URL
S228
REQUEST IMAGE OF RECEIVED URL
S230
START TIMER 46
11
(FIG. 18)

FIG.14

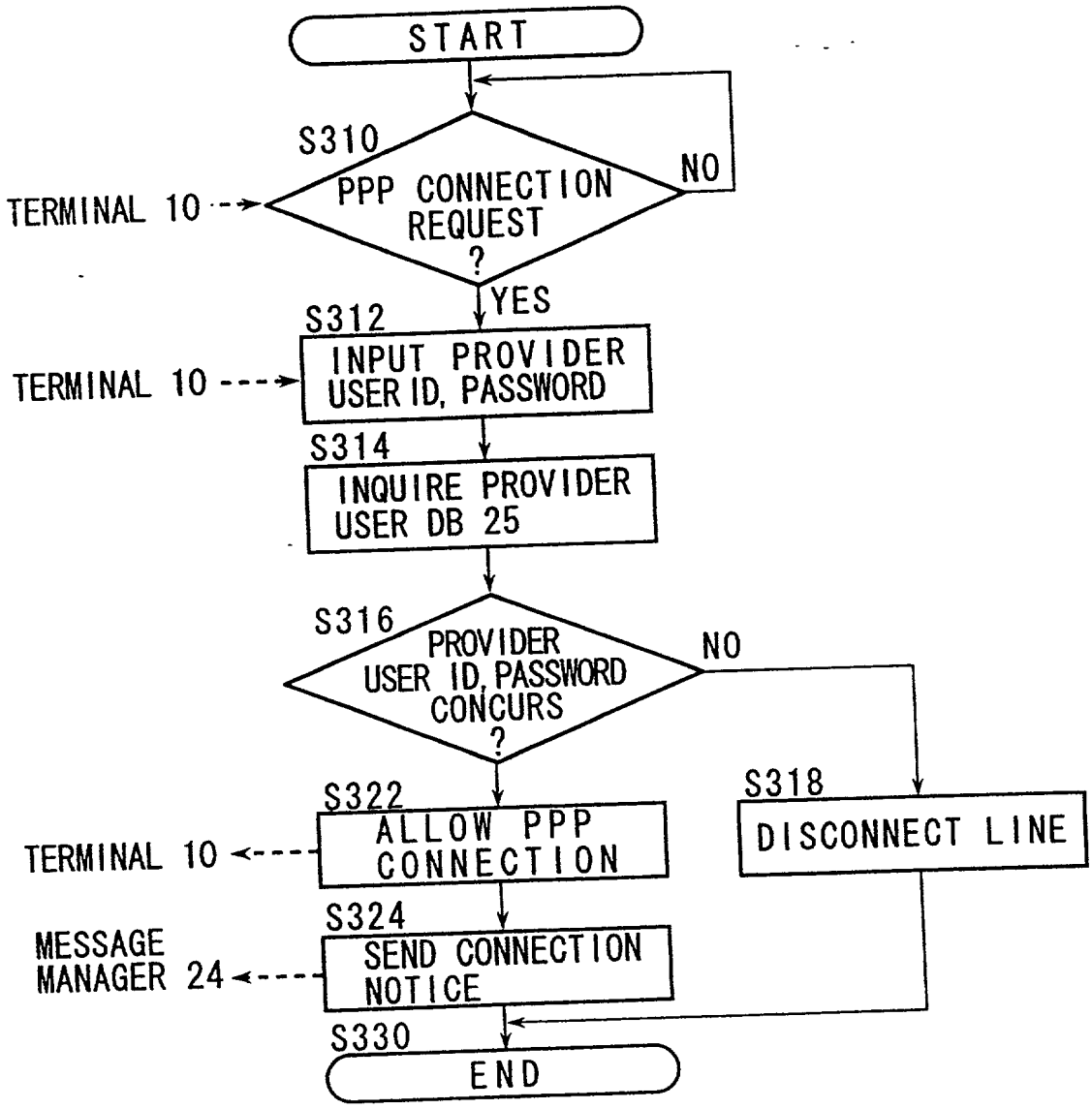

CONNECTION MANAGER 23
START
S310
PPP CONNECTION REQUEST ?
NO
YES
TERMINAL 10
S312
INPUT PROVIDER USER ID, PASSWORD
TERMINAL 10
S314
INQUIRE PROVIDER USER DB 25
S316
PROVIDER USER ID, PASSWORD CONCURS ?
NO
S318
DISCONNECT LINE
S322
ALLOW PPP CONNECTION
TERMINAL 10
S324
SEND CONNECTION NOTICE
MESSAGE MANAGER 24
S330
END

FIG.15

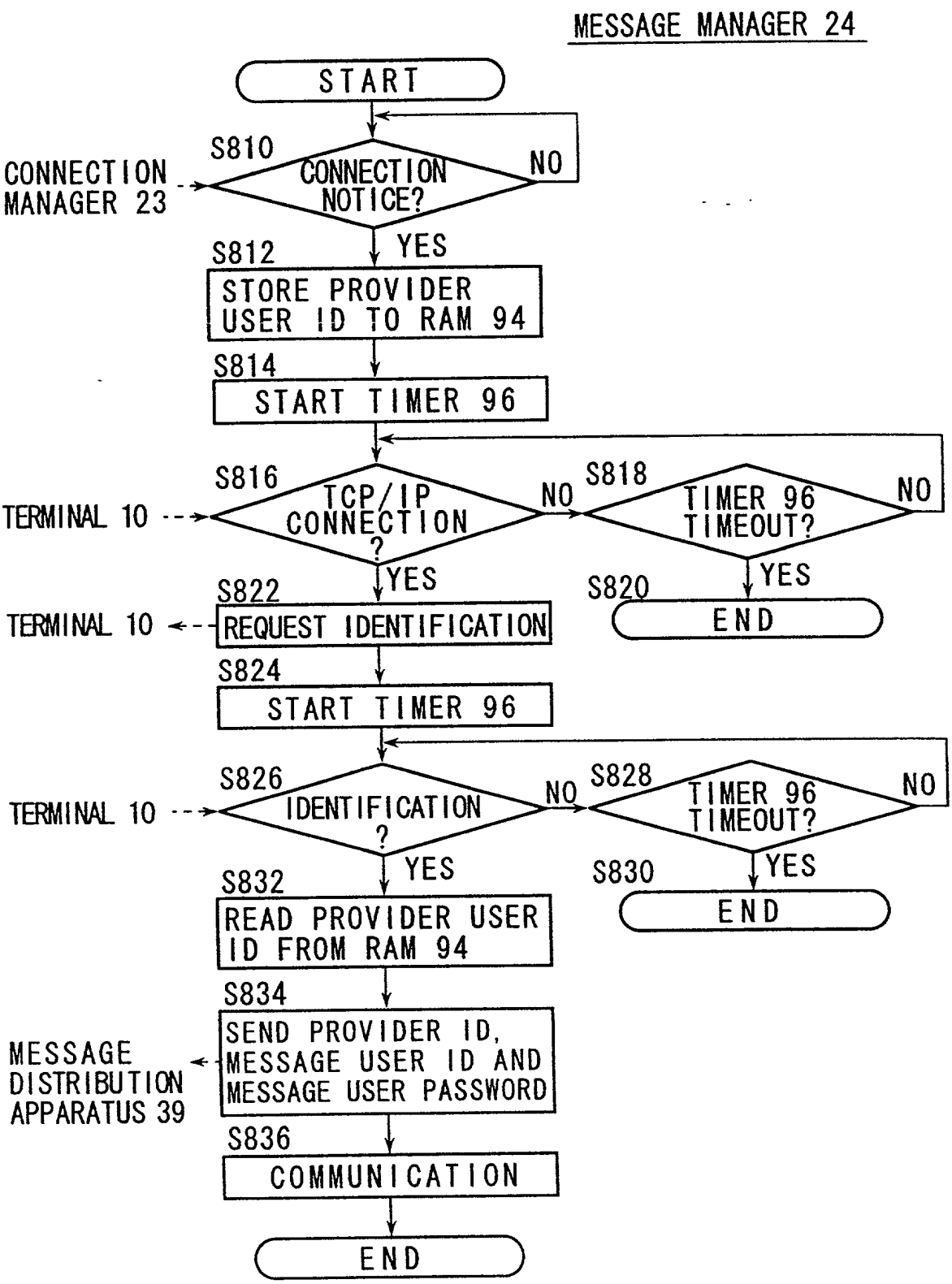

MESSAGE MANAGER 24
START
S810
CONNECTION MANAGER 23
CONNECTION NOTICE?
NO
YES
S812
STORE PROVIDER USER ID TO RAM 94
S814
START TIMER 96
S816
TERMINAL 10
TCP/IP CONNECTION ?
NO
S818
TIMER 96 TIMEOUT?
NO
YES
S820
END
YES
S822
TERMINAL 10
REQUEST IDENTIFICATION
S824
START TIMER 96
S826
TERMINAL 10
IDENTIFICATION ?
NO
S828
TIMER 96 TIMEOUT?
NO
YES
S830
END
YES
S832
READ PROVIDER USER ID FROM RAM 94
S834
MESSAGE DISTRIBUTION APPARATUS 39
SEND PROVIDER ID, MESSAGE USER ID AND MESSAGE USER PASSWORD
S836
COMMUNICATION
END

FIG.16

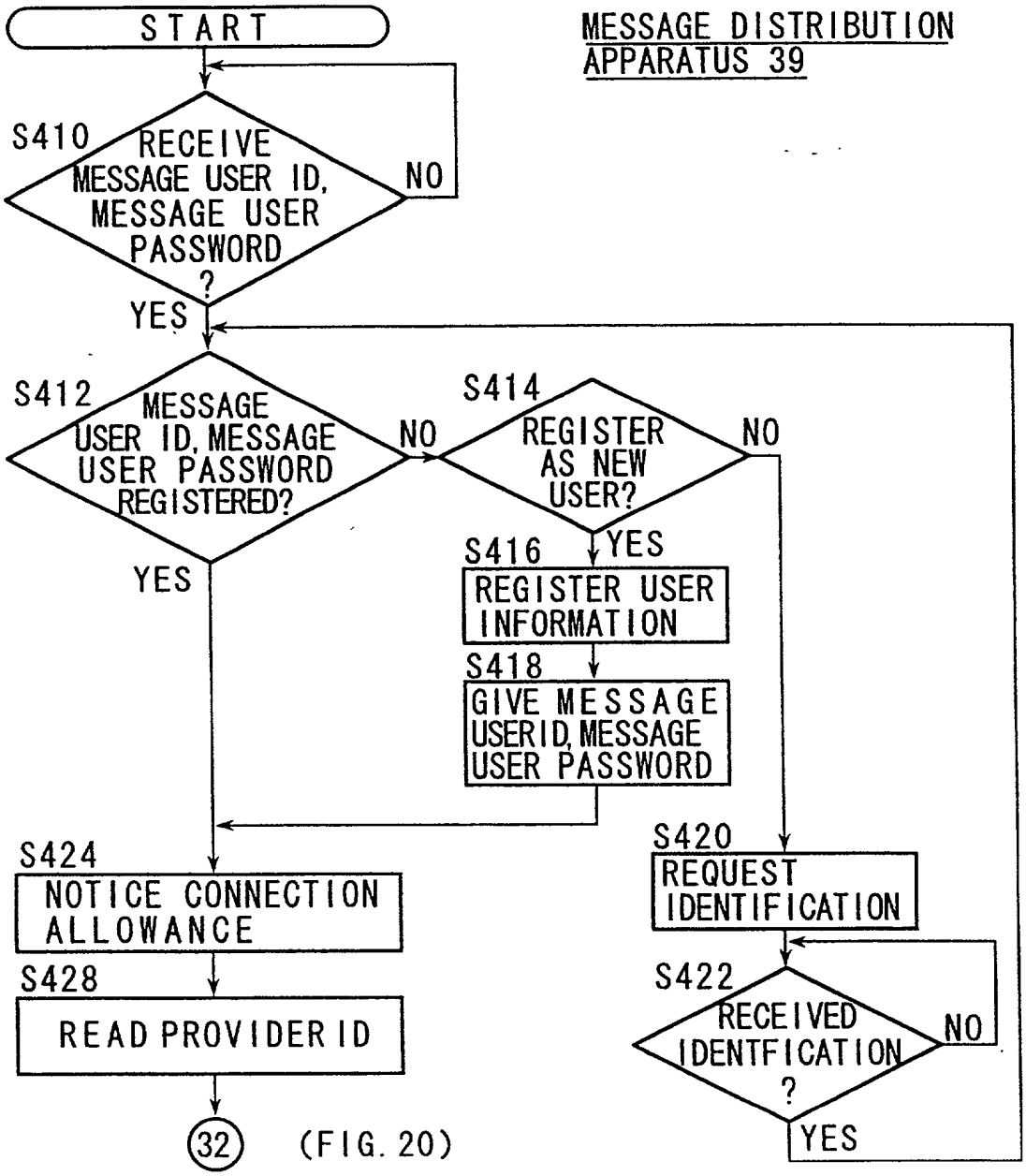

START
MESSAGE DISTRIBUTION APPARATUS 39
S410
RECEIVE MESSAGE USER ID, MESSAGE USER PASSWORD ?
NO
YES
S412
MESSAGE USER ID, MESSAGE USER PASSWORD REGISTERED?
NO
YES
S414
REGISTER AS NEW USER?
NO
YES
S416
REGISTER USER INFORMATION
S418
GIVE MESSAGE USERID, MESSAGE USER PASSWORD
S420
REQUEST IDENTIFICATION
S422
RECEIVED IDENTFICATION ?
NO
YES
S424
NOTICE CONNECTION ALLOWANCE
S428
READ PROVIDER ID
32
(FIG. 20)

FIG.17

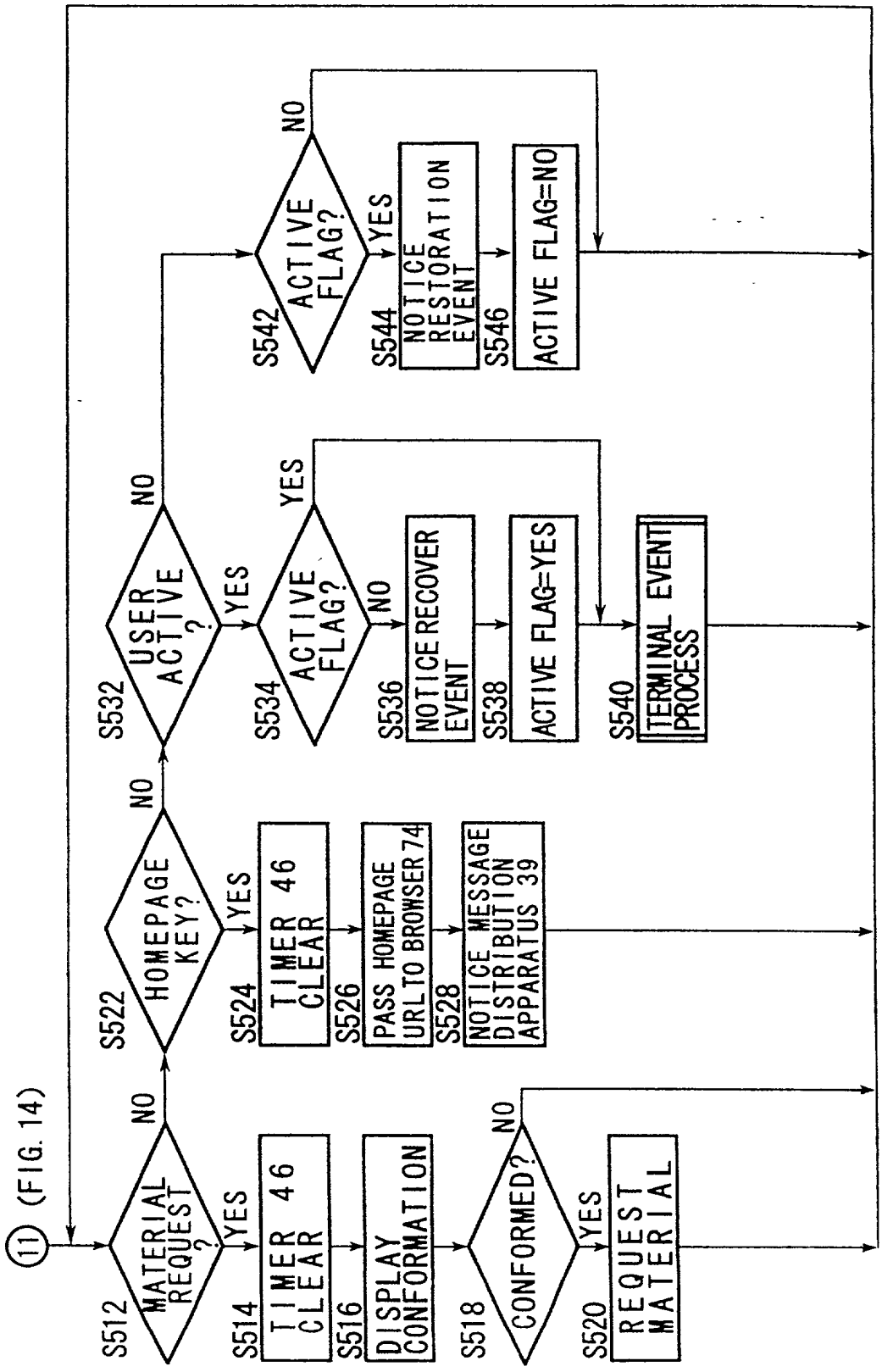

(11)
(FIG. 14)
S512
MATERIAL REQUEST ?
NO
YES
S514
TIMER 46 CLEAR
S516
DISPLAY CONFORMATION
S518
CONFORMED?
NO
YES
S520
REQUEST MATERIAL
S522
HOMEPAGE KEY?
NO
YES
S524
TIMER 46 CLEAR
S526
PASS HOMEPAGE URL TO BROWSER 74
S528
NOTICE MESSAGE DISTRIBUTION APPARATUS 39
S532
USER ACTIVE ?
NO
YES
S534
ACTIVE FLAG?
YES
NO
S536
NOTICE RECOVER EVENT
S538
ACTIVE FLAG=YES
S540
TERMINAL EVENT PROCESS
S542
ACTIVE FLAG?
NO
YES
S544
NOTICE RESTORATION EVENT
S546
ACTIVE FLAG=NO

FIG.18

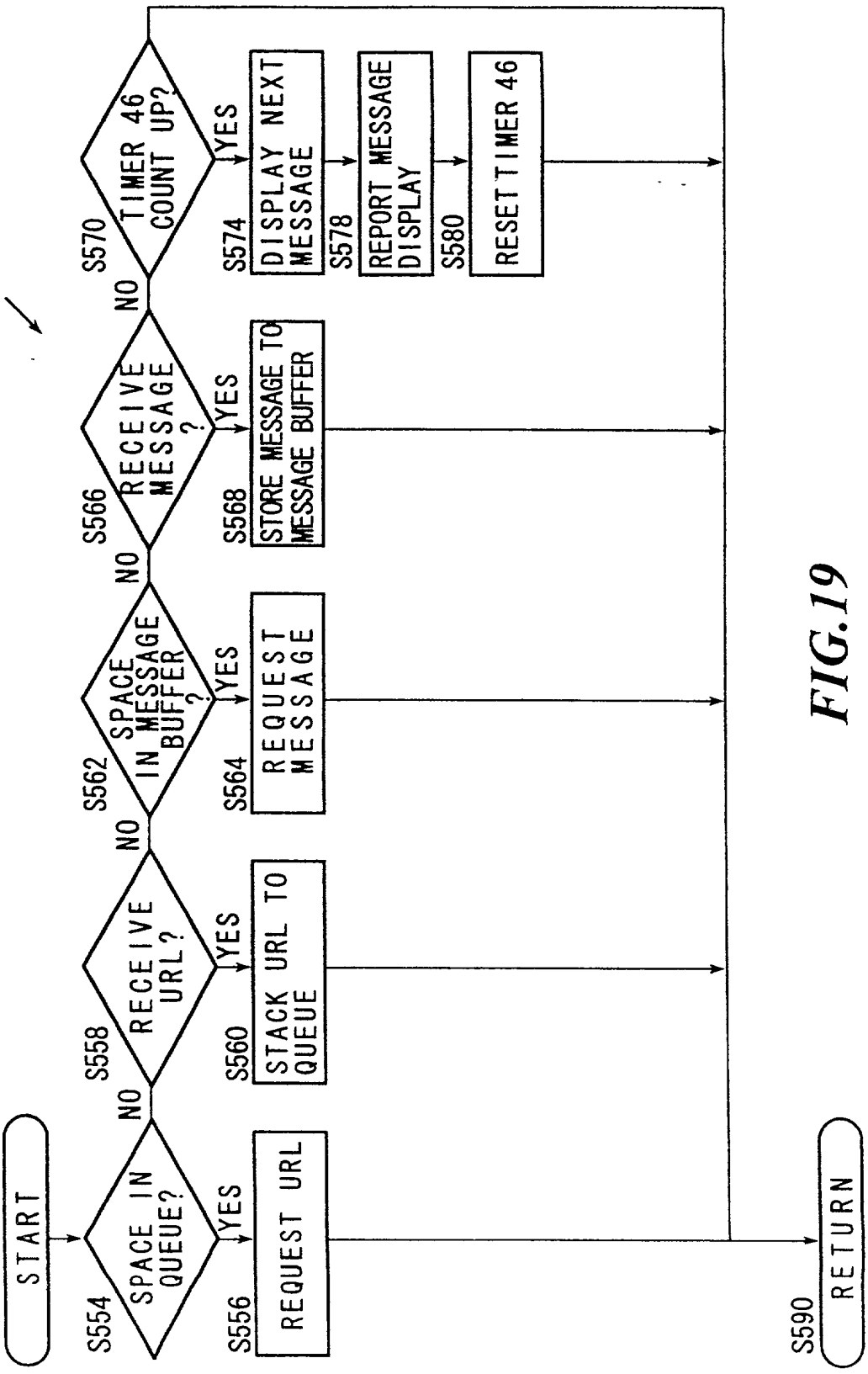

START
S554
SPACE IN QUEUE?
YES
S556
REQUEST URL
NO
S558
RECEIVE URL?
YES
S560
STACK URL TO QUEUE
NO
S562
SPACE IN MESSAGE BUFFER?
YES
S564
REQUEST MESSAGE
NO
S566
RECEIVE MESSAGE ?
YES
S568
STORE MESSAGE TO MESSAGE BUFFER
NO
S570
TIMER 46 COUNT UP?
YES
S574
DISPLAY NEXT MESSAGE
S578
REPORT MESSAGE DISPLAY
S580
RESET TIMER 46
S590
RETURN
S540

FIG.19

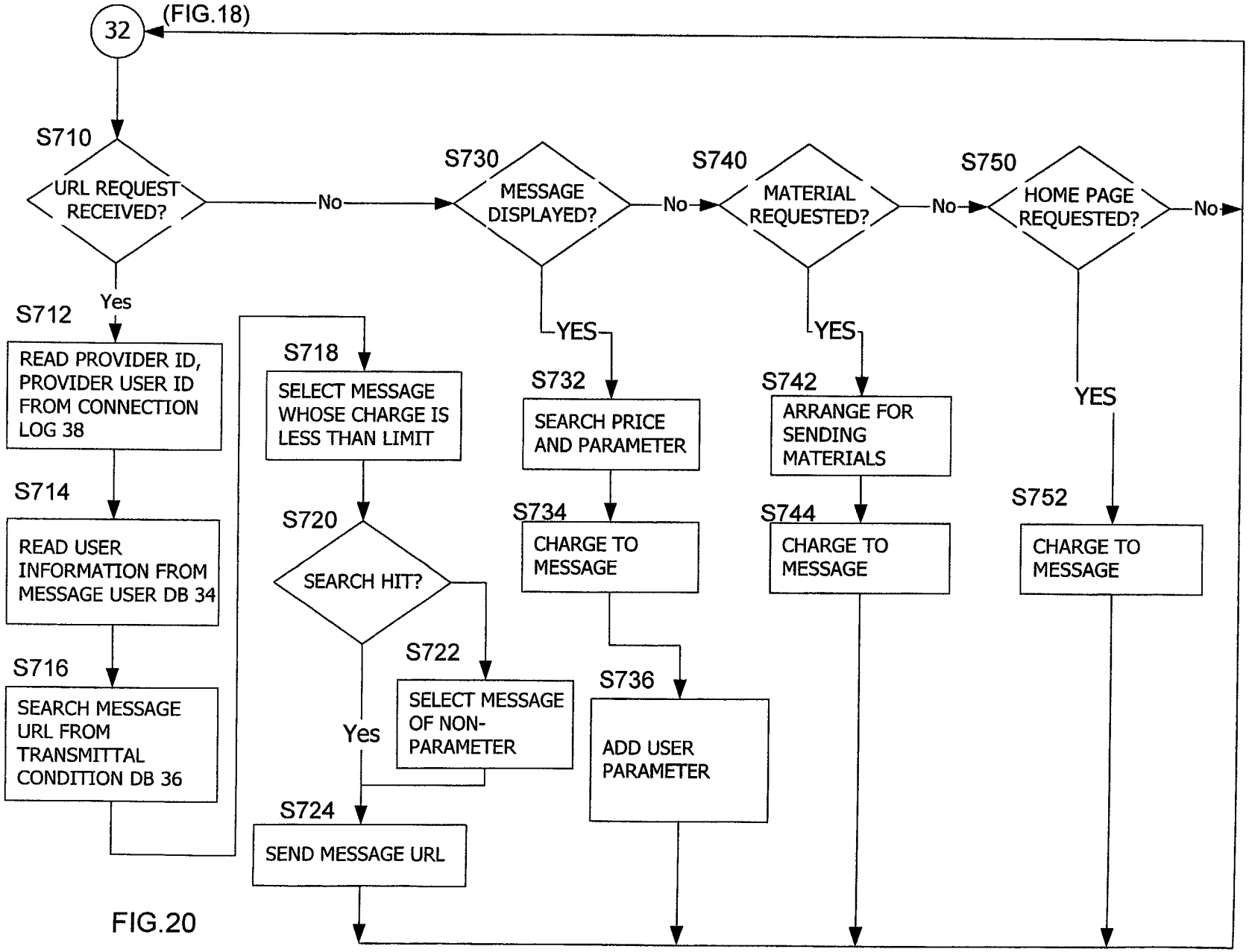

32
(FIG.18)
S710
URL REQUEST RECEIVED?
No
S730
MESSAGE DISPLAYED?
No
S740
MATERIAL REQUESTED?
No
S750
HOME PAGE REQUESTED?
No
Yes
S712
READ PROVIDER ID, PROVIDER USER ID FROM CONNECTION LOG 38
S714
READ USER INFORMATION FROM MESSAGE USER DB 34
S716
SEARCH MESSAGE URL FROM TRANSMITTAL CONDITION DB 36
S718
SELECT MESSAGE WHOSE CHARGE IS LESS THAN LIMIT
S720
SEARCH HIT?
Yes
S722
SELECT MESSAGE OF NON-PARAMETER
S724
SEND MESSAGE URL
YES
S732
SEARCH PRICE AND PARAMETER
S734
CHARGE TO MESSAGE
S736
ADD USER PARAMETER
YES
S742
ARRANGE FOR SENDING MATERIALS
S744
CHARGE TO MESSAGE
YES
S752
CHARGE TO MESSAGE

FIG.20

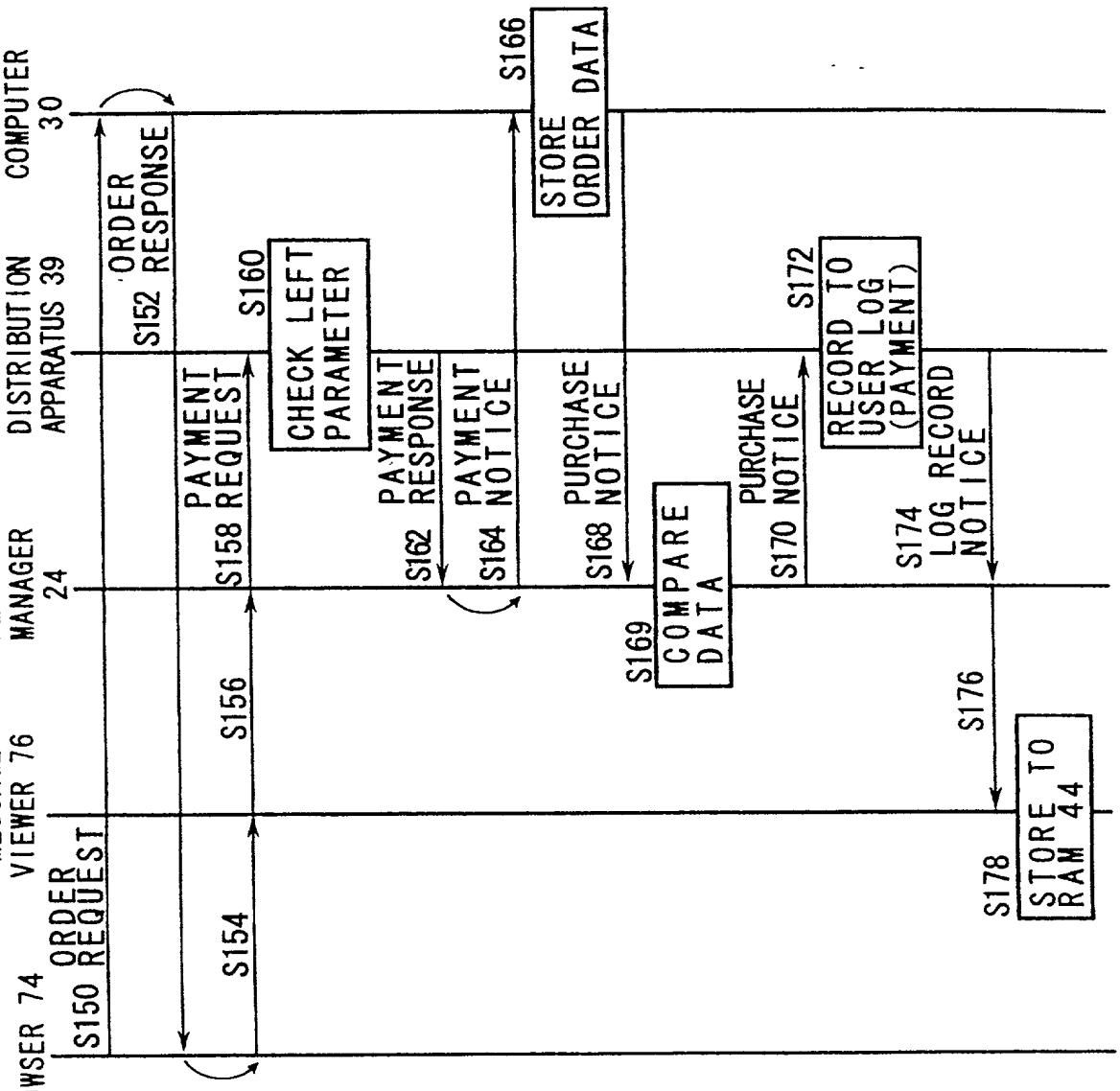

BROWSER 74
MESSAGE VIEWER 76
MESSAGE MANAGER 24
MESSAGE DISTRIBUTION APPARATUS 39
HOST COMPUTER 30
S150 ORDER REQUEST
S152 ORDER RESPONSE
S154
S156
S158 PAYMENT REQUEST
S160 CHECK LEFT PARAMETER
S162 PAYMENT RESPONSE
S164 PAYMENT NOTICE
S166 STORE ORDER DATA
S168 PURCHASE NOTICE
S169 COMPARE DATA
S170 PURCHASE NOTICE
S172 RECORD TO USER LOG (PAYMENT)
S174 LOG RECORD NOTICE
S176
S178 STORE TO RAM 44

FIG.21

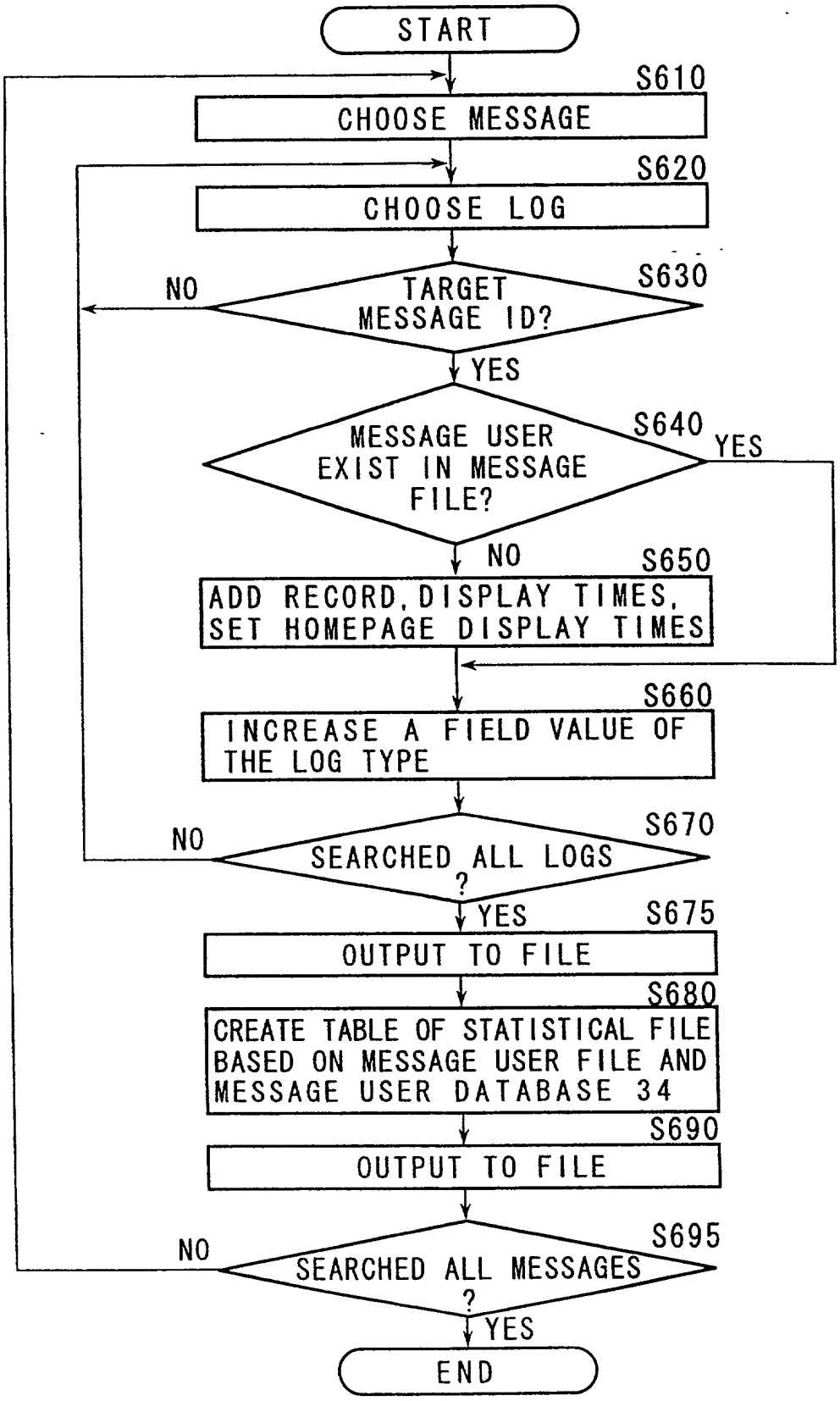

START
S610
CHOOSE MESSAGE
S620
CHOOSE LOG
S630
TARGET MESSAGE ID?
NO
YES
S640
MESSAGE USER EXIST IN MESSAGE FILE?
YES
NO
S650
ADD RECORD, DISPLAY TIMES, SET HOMEPAGE DISPLAY TIMES
S660
INCREASE A FIELD VALUE OF THE LOG TYPE
S670
SEARCHED ALL LOGS ?
NO
YES
S675
OUTPUT TO FILE
S680
CREATE TABLE OF STATISTICAL FILE BASED ON MESSAGE USER FILE AND MESSAGE USER DATABASE 34
S690
OUTPUT TO FILE
S695
SEARCHED ALL MESSAGES ?
NO
YES
END

FIG.22

MESSAGE USER ID	MESSAGE DISPLAY TIMES	HOME PAGE DISPLAY TIMES	MATERIAL REQUEST
C C C	4	1	1
D D D	1	0	0
0 0 0	2	1	0
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.

FIG.23

	DISPLAY TIMES	HOMEPAGE DISPLAY TIMES	NUMBER OF PEOPLE WHO DISPLAYED MESSAGES	HOMEPAGE NUMBER OF PEOPLE WHO DISPLAYED MESSAGES	NUMBER OF PEOPLE REQUESTING MATERIALS
TOTAL					
MAN					
FEMALE					
~20 YEARS OLD					
21~30 YEARS OLD					
31~40 YEARS OLD					
41~50 YEARS OLD					
TOKYO					
CHIBA					
⋮	⋮	⋮	⋮	⋮	⋮

FIG.24

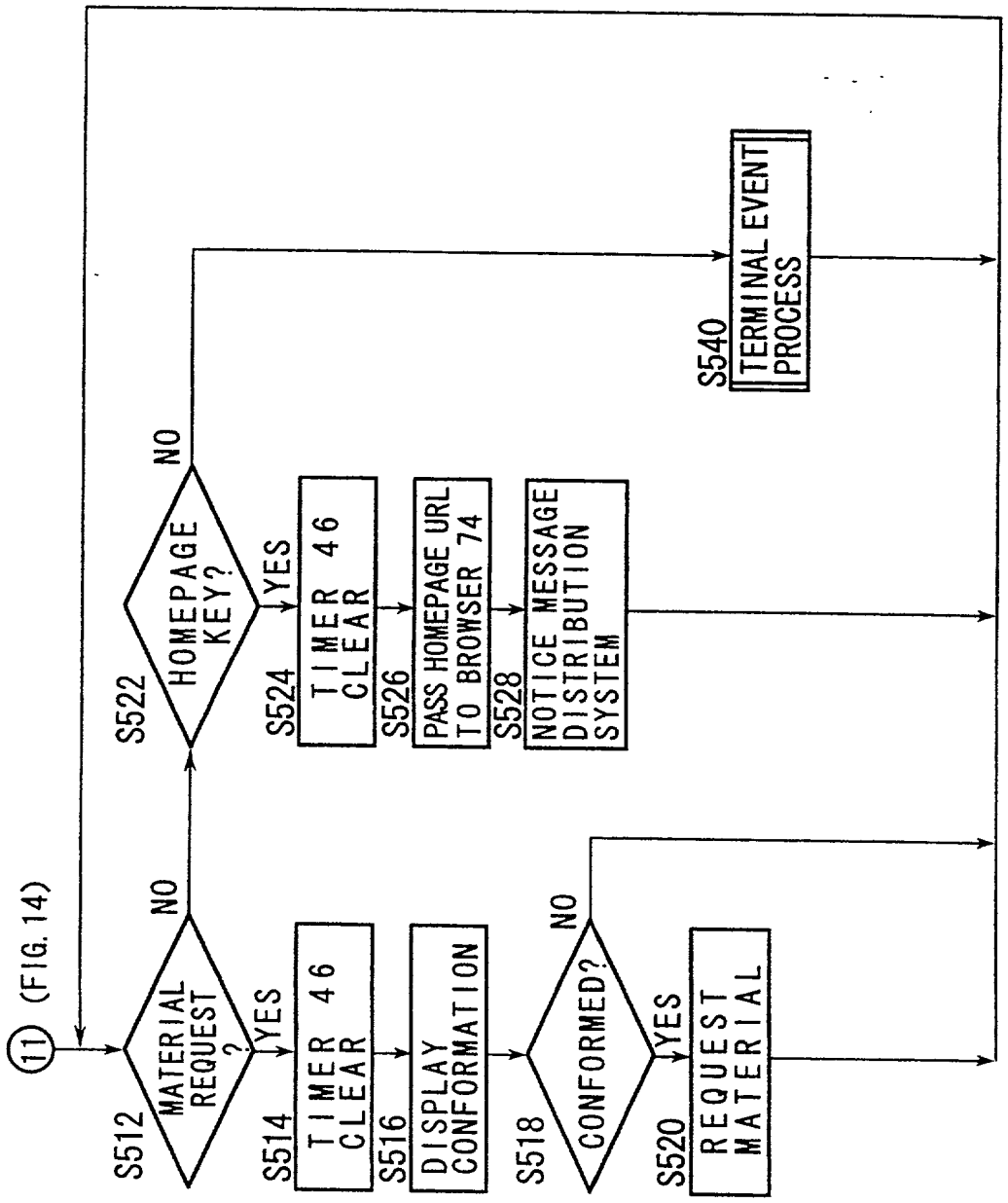

(11) (FIG. 14)
S512
MATERIAL REQUEST ?
NO
YES
S514
TIMER 46 CLEAR
S516
DISPLAY CONFORMATION
S518
CONFORMED?
NO
YES
S520
REQUEST MATERIAL
S522
HOMEPAGE KEY?
NO
YES
S524
TIMER 46 CLEAR
S526
PASS HOMEPAGE URL TO BROWSER 74
S528
NOTICE MESSAGE DISTRIBUTION SYSTEM
S540
TERMINAL EVENT PROCESS

FIG. 25

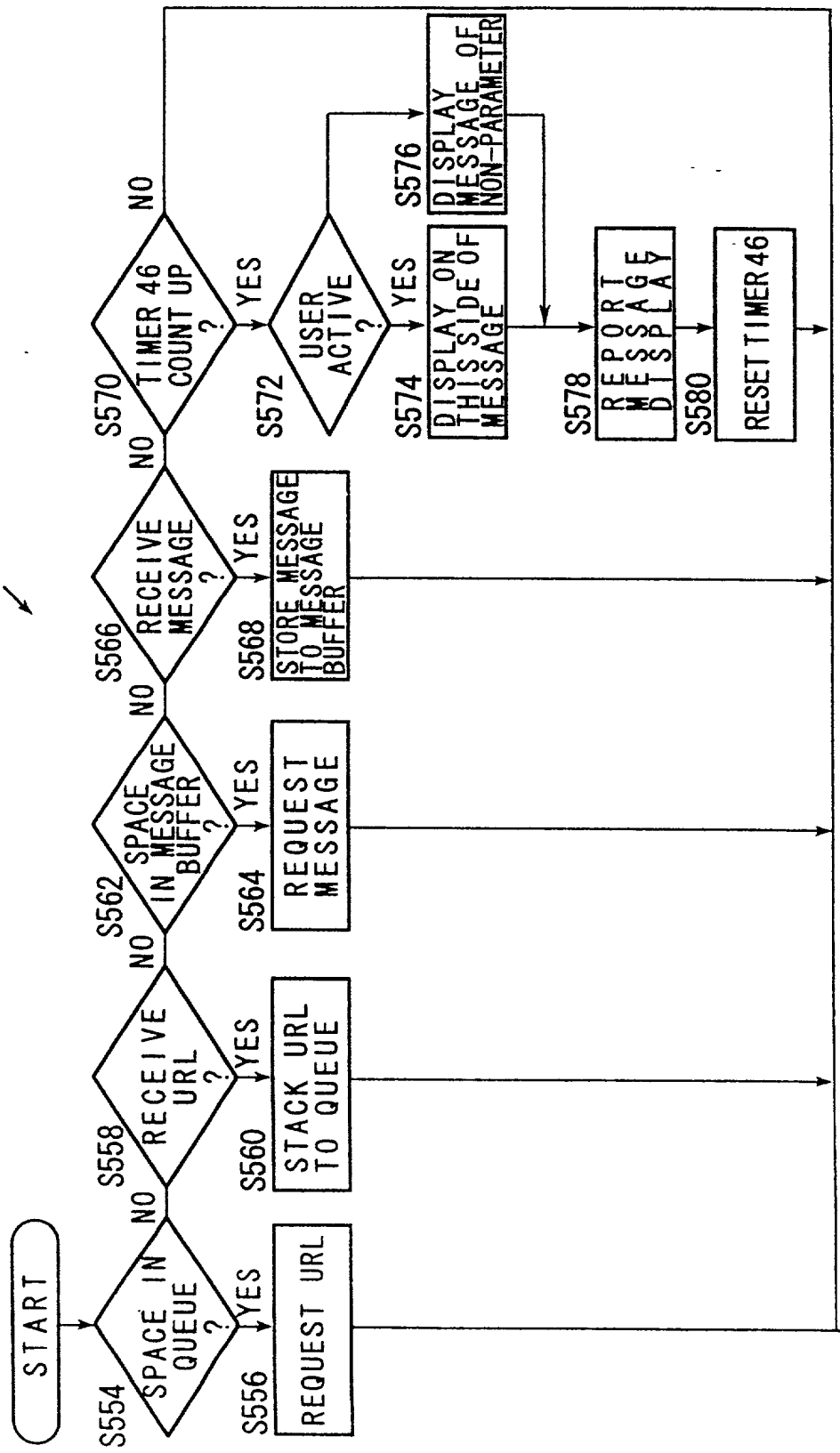

S540
START
S554
SPACE IN QUEUE ?
NO
YES
S556
REQUEST URL
S558
RECEIVE URL ?
NO
YES
S560
STACK URL TO QUEUE
S562
SPACE IN MESSAGE BUFFER ?
NO
YES
S564
REQUEST MESSAGE
S566
RECEIVE MESSAGE ?
NO
YES
S568
STORE MESSAGE TO MESSAGE BUFFER
S570
TIMER 46 COUNT UP ?
NO
YES
S572
USER ACTIVE ?
YES
S574
DISPLAY ON THIS SIDE OF MESSAGE
S576
DISPLAY MESSAGE OF NON-PARAMETER
S578
REPORT MESSAGE DISPLAY
S580
RESET TIMER 46
RETURN

FIG.26

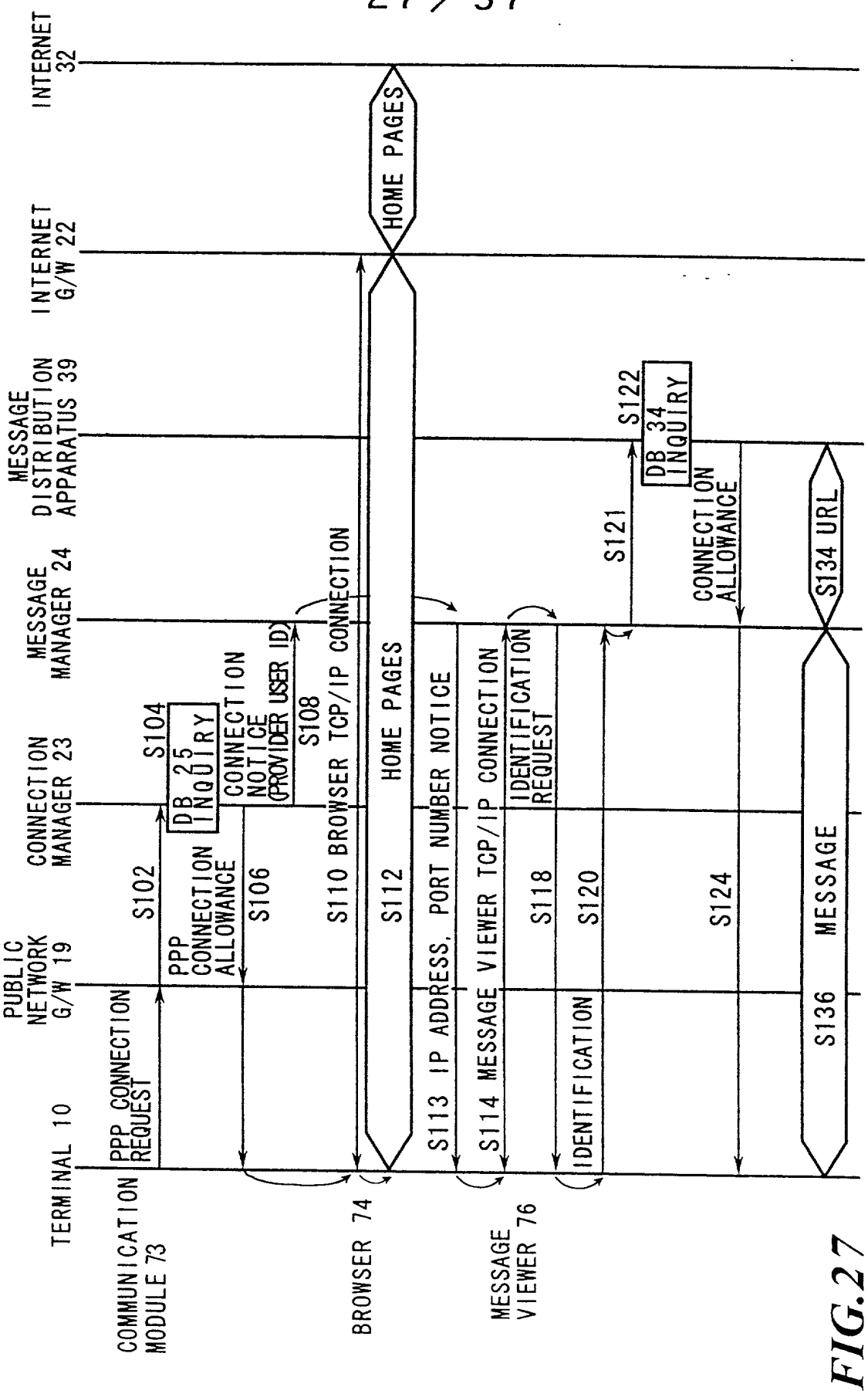

TERMINAL 10
COMMUNICATION MODULE 73
PUBLIC NETWORK G/W 19
CONNECTION MANAGER 23
MESSAGE MANAGER 24
MESSAGE DISTRIBUTION APPARATUS 39
INTERNET G/W 22
INTERNET 32
BROWSER 74
MESSAGE VIEWER 76
PPP CONNECTION REQUEST
S102
PPP CONNECTION ALLOWANCE
S104
DB 25 INQUIRY
S106
CONNECTION NOTICE (PROVIDER USER ID)
S108
S110 BROWSER TCP/IP CONNECTION
HOME PAGES
S112
S113 IP ADDRESS, PORT NUMBER NOTICE
S114 MESSAGE VIEWER TCP/IP CONNECTION
IDENTIFICATION REQUEST
S118
IDENTIFICATION
S120
S121
DB 34 INQUIRY
S122
CONNECTION ALLOWANCE
S124
S134 URL
S136 MESSAGE

FIG.27

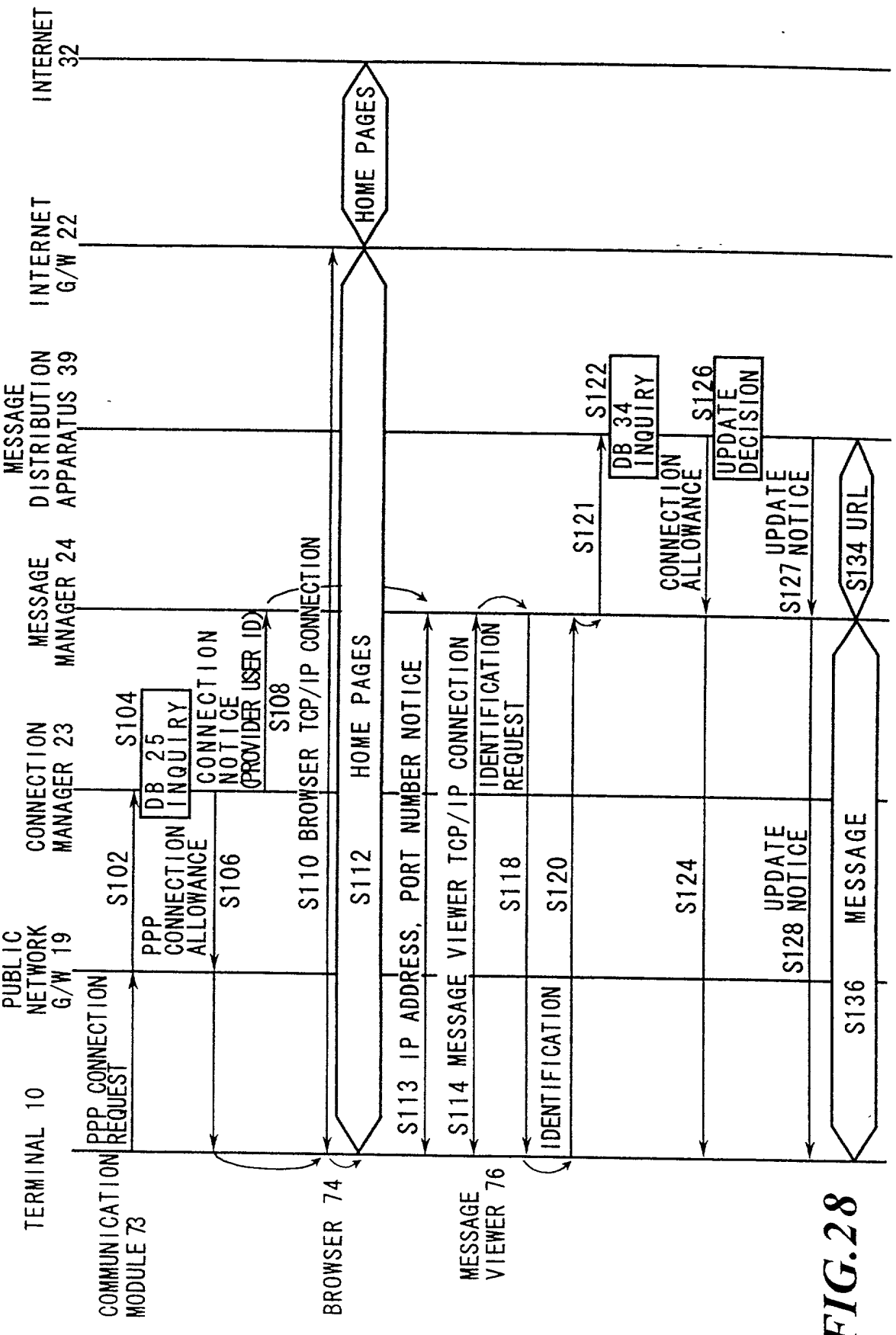

TERMINAL 10
COMMUNICATION MODULE 73
PUBLIC NETWORK G/W 19
CONNECTION MANAGER 23
MESSAGE MANAGER 24
MESSAGE DISTRIBUTION APPARATUS 39
INTERNET G/W 22
INTERNET 32
BROWSER 74
MESSAGE VIEWER 76
PPP CONNECTION REQUEST
S102
PPP CONNECTION ALLOWANCE
S104
DB 25 INQUIRY
S106
CONNECTION NOTICE (PROVIDER USER ID)
S108
S110 BROWSER TCP/IP CONNECTION
S112 HOME PAGES
HOME PAGES
S113 IP ADDRESS, PORT NUMBER NOTICE
S114 MESSAGE VIEWER TCP/IP CONNECTION
S118 IDENTIFICATION REQUEST
S120 IDENTIFICATION
S121
S122 DB 34 INQUIRY
CONNECTION ALLOWANCE
S124
S126 UPDATE DECISION
S127 UPDATE NOTICE
S128 UPDATE NOTICE
S134 URL
S136 MESSAGE

FIG.28

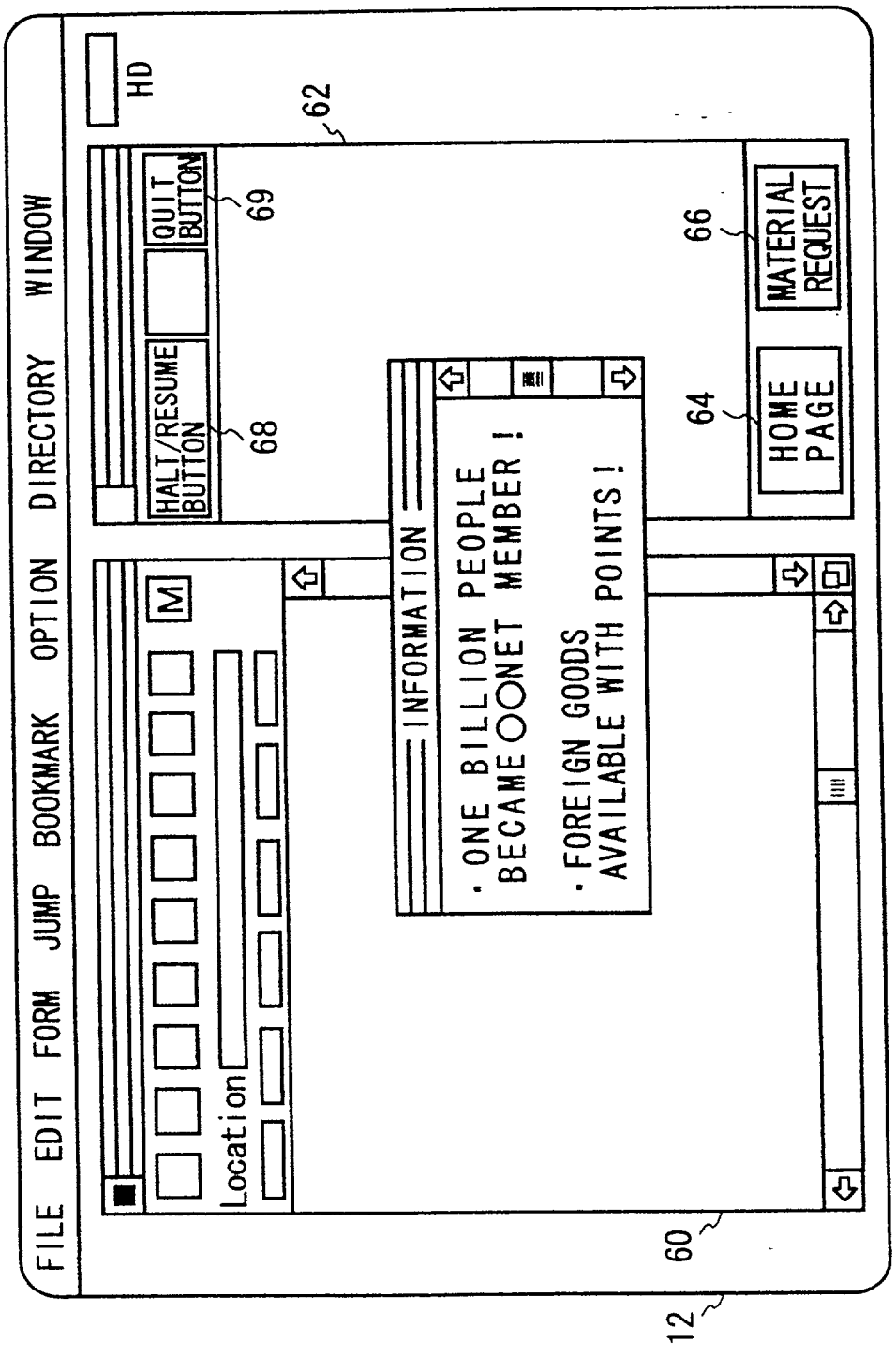

FILE EDIT FORM JUMP BOOKMARK OPTION DIRECTORY WINDOW
HD
62
QUIT BUTTON
69
HALT/RESUME BUTTON
68
66
MATERIAL REQUEST
64
HOME PAGE
INFORMATION
· ONE BILLION PEOPLE BECAME OONET MEMBER !
· FOREIGN GOODS AVAILABLE WITH POINTS !
Location
60
12

FIG.29

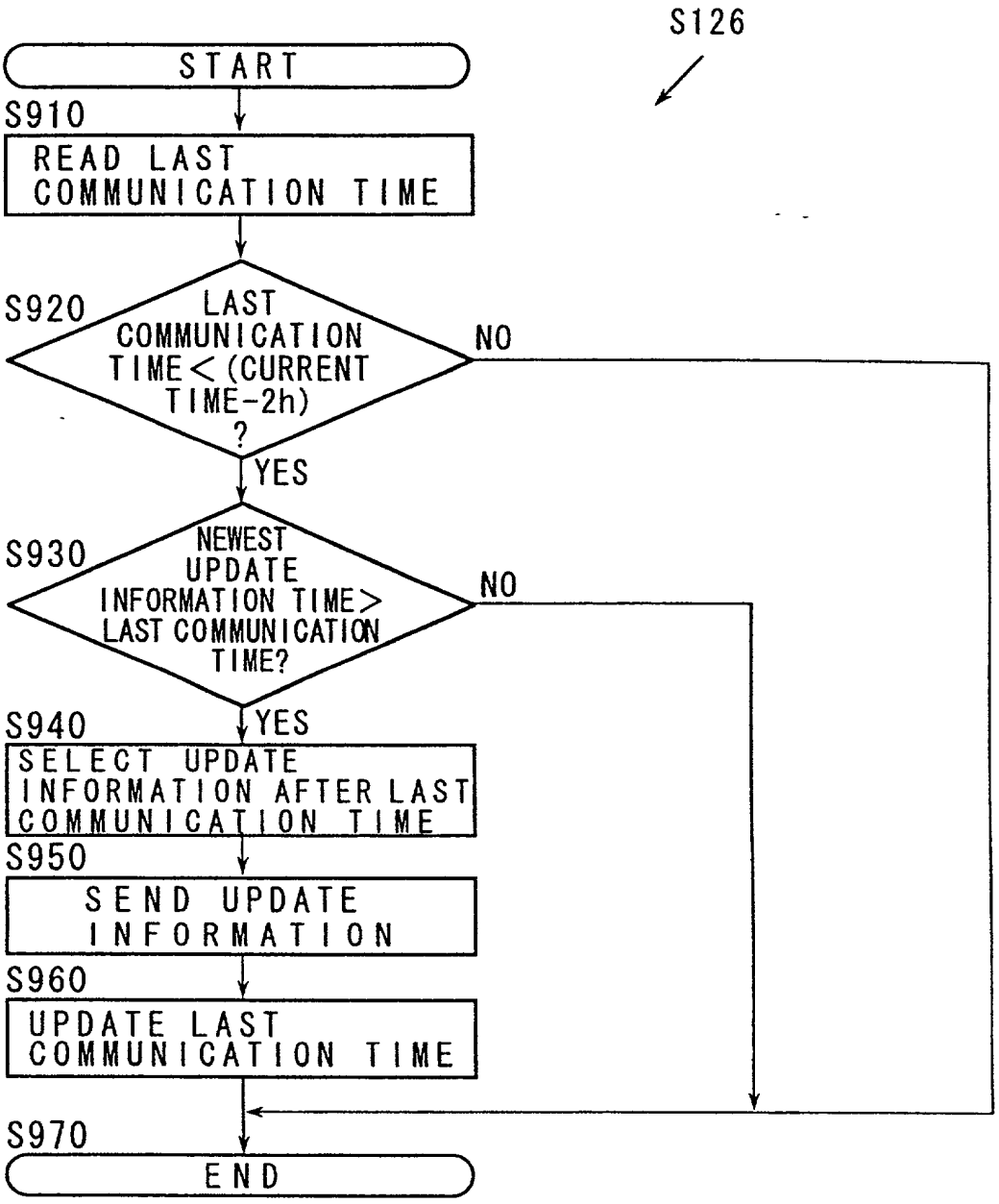


FIG.30

EP 2 706 726 A1

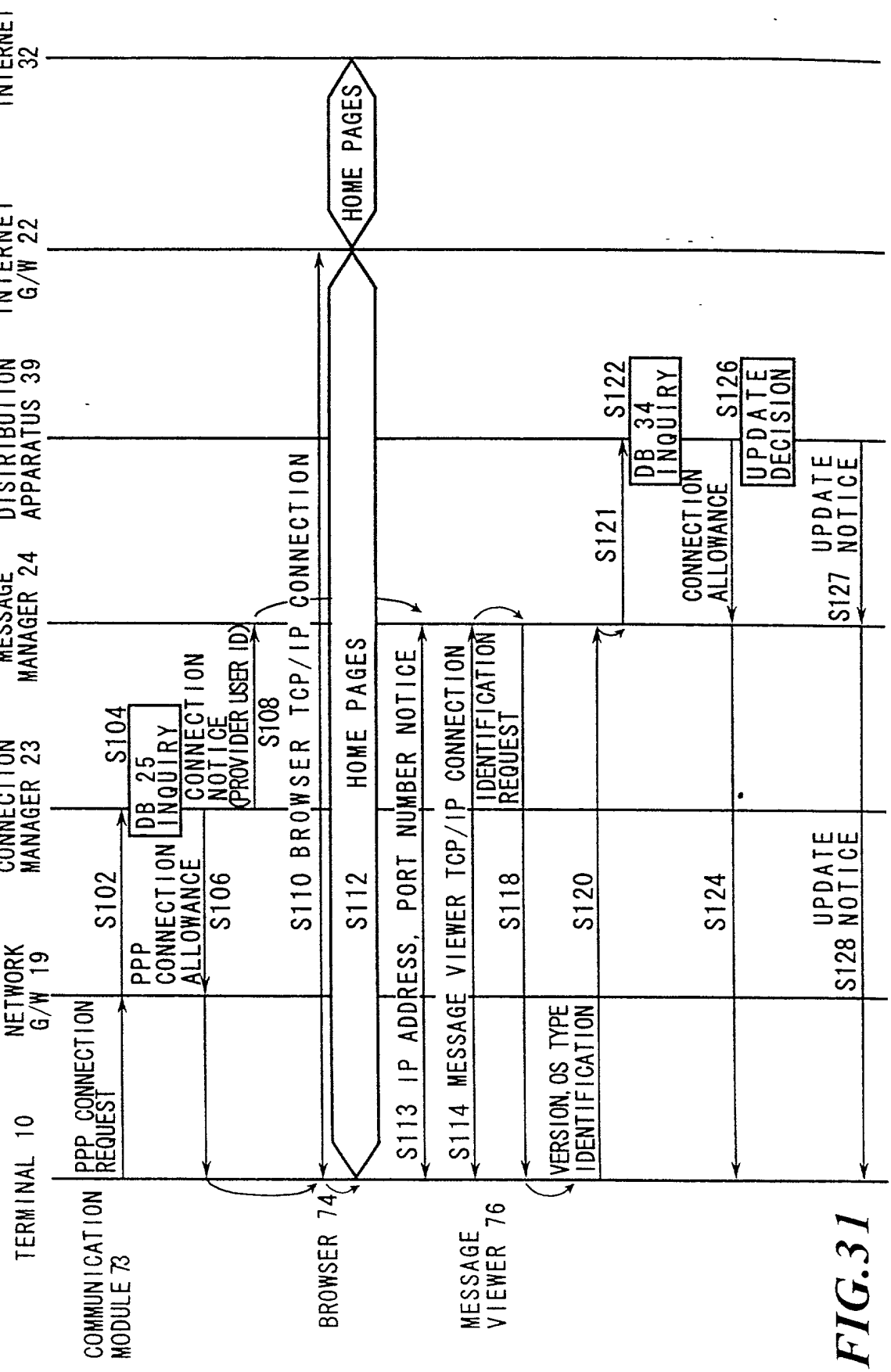

TERMINAL 10
COMMUNICATION MODULE 73
PUBLIC NETWORK G/W 19
CONNECTION MANAGER 23
MESSAGE MANAGER 24
MESSAGE DISTRIBUTION APPARATUS 39
INTERNET G/W 22
INTERNET 32
BROWSER 74
MESSAGE VIEWER 76
PPP CONNECTION REQUEST
S102
PPP CONNECTION ALLOWANCE
S104
DB 25 INQUIRY
S106
CONNECTION NOTICE (PROVIDER USER ID)
S108
S110 BROWSER TCP/IP CONNECTION
HOME PAGES
S112
S113 IP ADDRESS, PORT NUMBER NOTICE
S114 MESSAGE VIEWER TCP/IP CONNECTION
IDENTIFICATION REQUEST
S118
VERSION, OS TYPE IDENTIFICATION
S120
S121
DB 34 INQUIRY
S122
CONNECTION ALLOWANCE
S124
UPDATE DECISION
S126
UPDATE NOTICE
S127
UPDATE NOTICE
S128

FIG.31

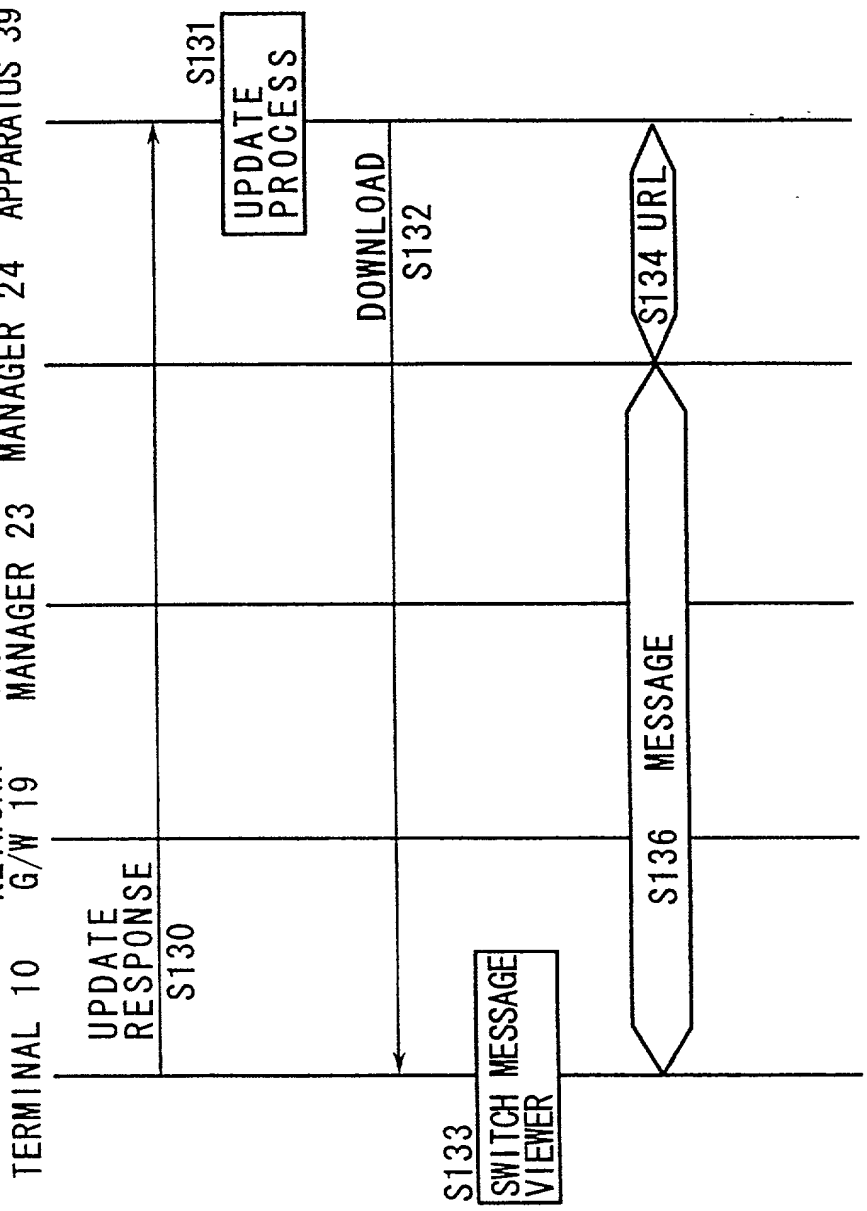

TERMINAL 10
PUBLIC NETWORK G/W 19
CONNECTION MANAGER 23
MESSAGE MANAGER 24
MESSAGE DISTRIBUTION APPARATUS 39
UPDATE RESPONSE
S130
S131
UPDATE PROCESS
DOWNLOAD
S132
S133
SWITCH MESSAGE VIEWER
S134 URL
S136 MESSAGE

FIG.32

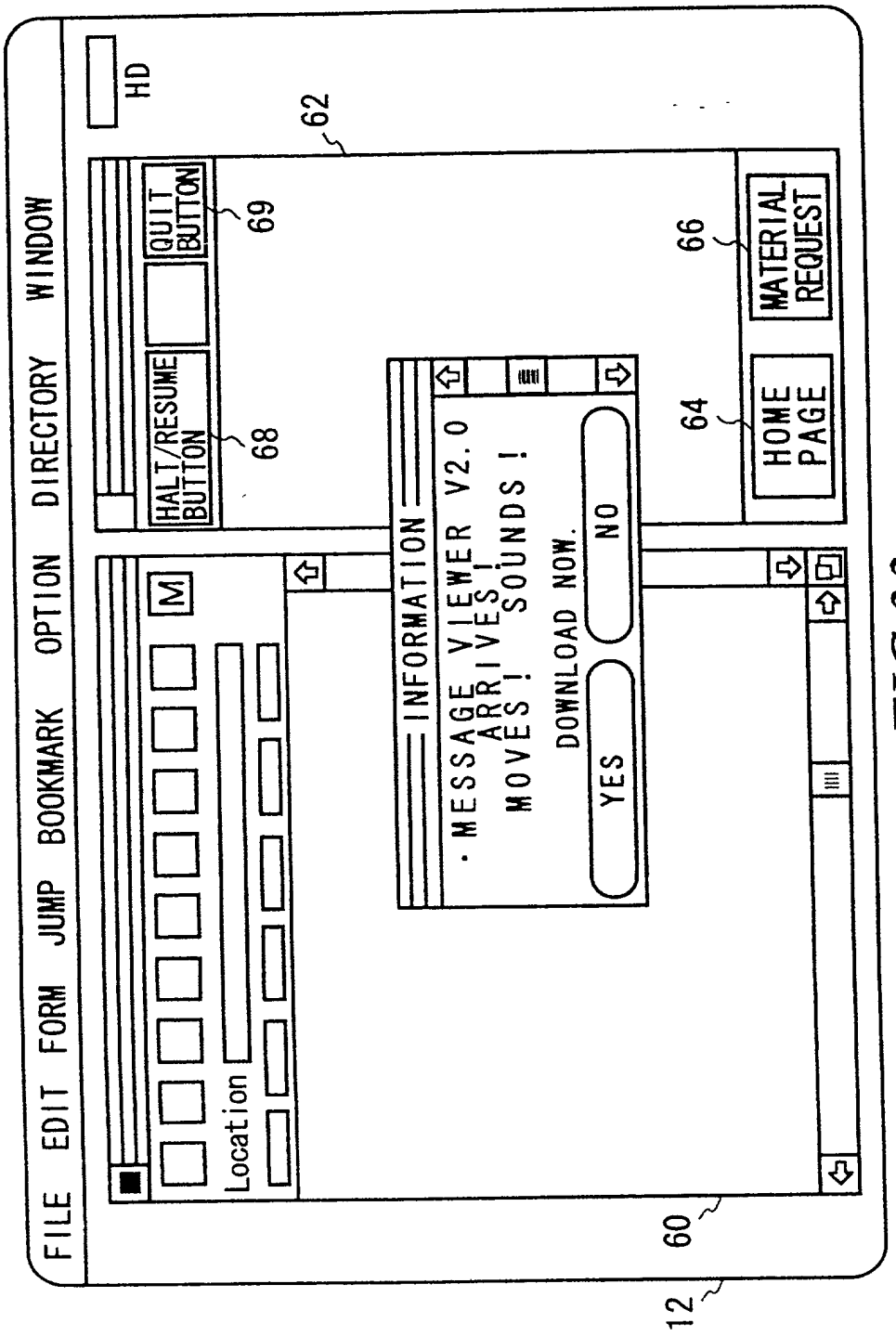

FILE EDIT FORM JUMP BOOKMARK OPTION DIRECTORY WINDOW
HD
62
QUIT BUTTON
69
HALT/RESUME BUTTON
68
66
MATERIAL REQUEST
64
HOME PAGE
INFORMATION
· MESSAGE VIEWER V2.0 ARRIVES! MOVES! SOUNDS!
DOWNLOAD NOW.
YES
NO
Location
60
12

FIG.33

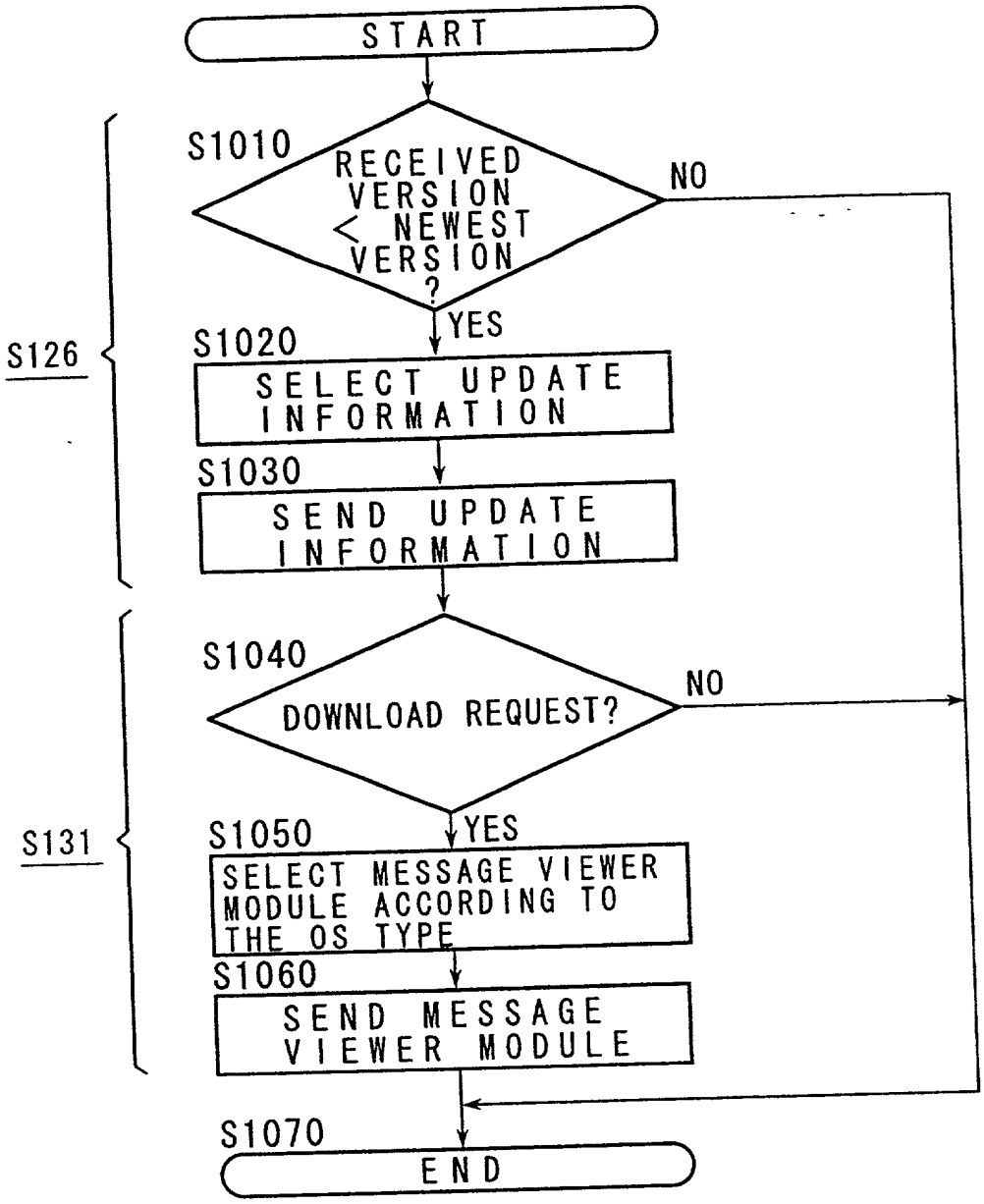

START
S1010
RECEIVED VERSION < NEWEST VERSION ?
NO
YES
S126
S1020
SELECT UPDATE INFORMATION
S1030
SEND UPDATE INFORMATION
S1040
DOWNLOAD REQUEST?
NO
YES
S131
S1050
SELECT MESSAGE VIEWER MODULE ACCORDING TO THE OS TYPE
S1060
SEND MESSAGE VIEWER MODULE
S1070
END

FIG.34

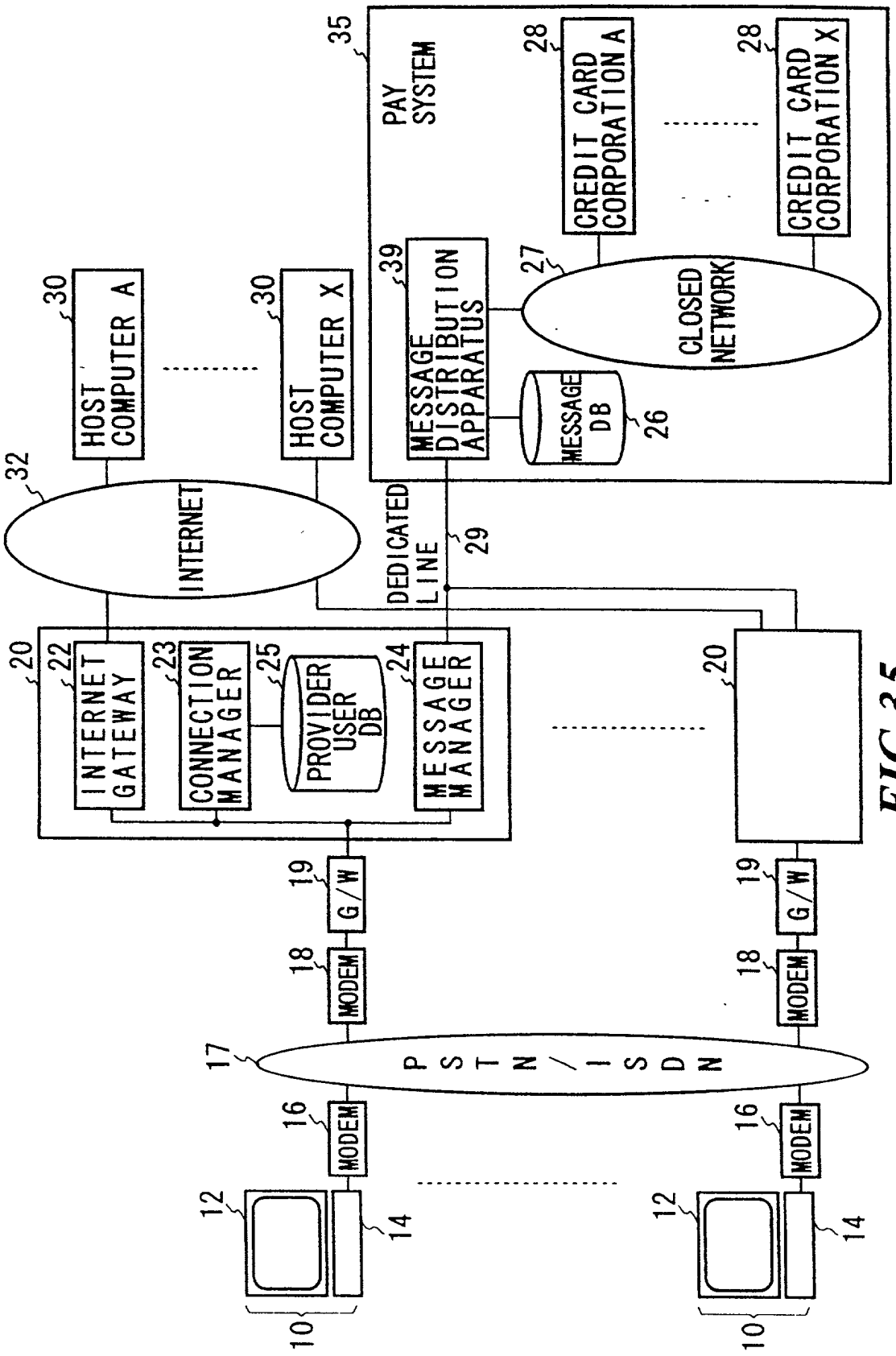

35
PAY SYSTEM
28
CREDIT CARD CORPORATION A
28
CREDIT CARD CORPORATION X
39
MESSAGE DISTRIBUTION APPARATUS
27
CLOSED NETWORK
MESSAGE DB
26
30
HOST COMPUTER A
30
HOST COMPUTER X
32
INTERNET
DEDICATED LINE
29
20
22
INTERNET GATEWAY
23
CONNECTION MANAGER
25
PROVIDER USER DB
24
MESSAGE MANAGER
20
19
G/W
19
G/W
18
MODEM
18
MODEM
17
PSTN/ISDN
16
MODEM
16
MODEM
12
14
12
14
10
10

FIG.35

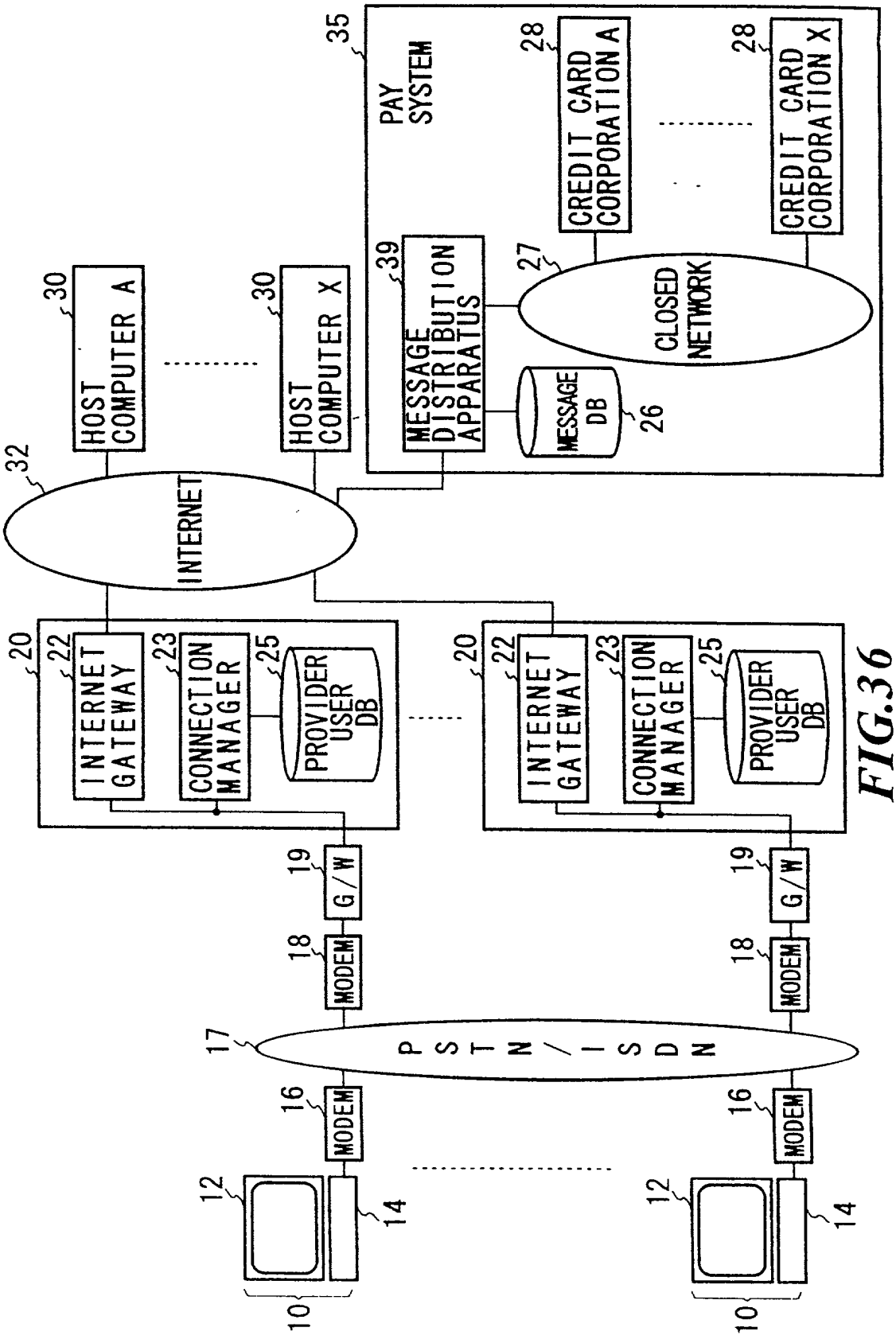

10
12
14
MODEM
16
17
PSTN/ISDN
18
G/W
19
20
INTERNET GATEWAY
22
CONNECTION MANAGER
23
PROVIDER USER DB
25
MESSAGE DB
26
CLOSED NETWORK
27
CREDIT CARD CORPORATION A
CREDIT CARD CORPORATION X
28
PAY SYSTEM
35
MESSAGE DISTRIBUTION APPARATUS
39
INTERNET
32
HOST COMPUTER A
HOST COMPUTER X
30

FIG.36

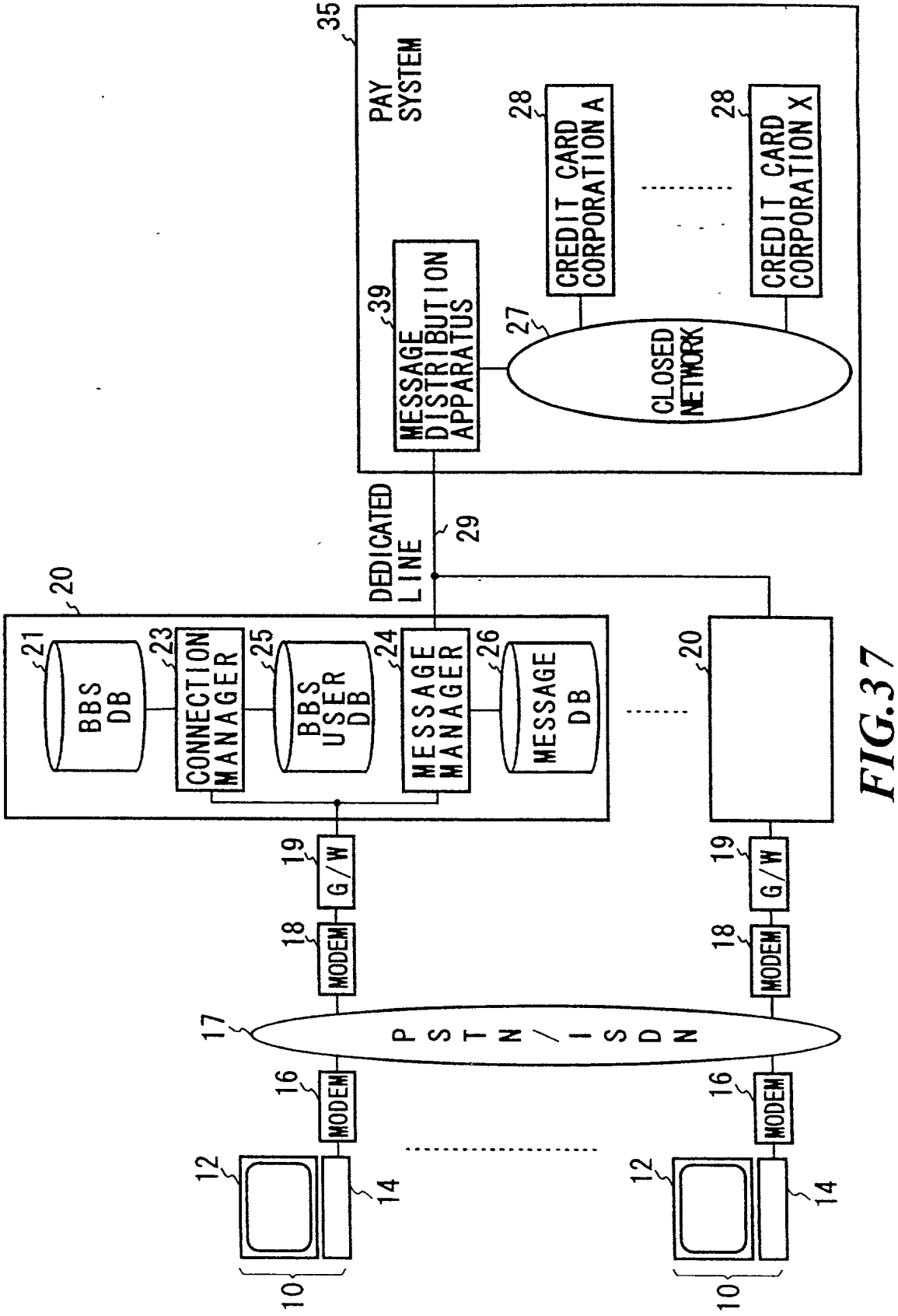

35
PAY SYSTEM
28
CREDIT CARD CORPORATION A
28
CREDIT CARD CORPORATION X
39
MESSAGE DISTRIBUTION APPARATUS
27
CLOSED NETWORK
DEDICATED LINE
29
20
21
BBS DB
23
CONNECTION MANAGER
25
BBS USER DB
24
MESSAGE MANAGER
26
MESSAGE DB
20
19
G/W
19
G/W
18
MODEM
18
MODEM
17
PSTN/ISDN
16
MODEM
16
MODEM
12
14
10
12
14
10

FIG.37